Running head: A Medical Logistics Officer Training Needs Assessment

A Medical Logistics Officer Training Needs Assessment Utilizing Feedback from Operation Iraqi Freedom

MAJ James L. Waddick

U.S. Army-Baylor University MHA Program

A paper submitted in partial fulfillment of the requirements for the U.S. Army-Baylor University MHA Program Administrative Residency

Report Documentation Page

Form Approved
OMB No. 0704-0188

1. REPORT DATE	2. REPORT TYPE	3. DATES COVERED
24 MAY 2004	**N/A**	**-**

4. TITLE AND SUBTITLE	5a. CONTRACT NUMBER
A Medical Logistics Officer Training Needs Assessment Utilizing Feedback from Operation Iraqi Freedom	5b. GRANT NUMBER
	5c. PROGRAM ELEMENT NUMBER
6. AUTHOR(S)	5d. PROJECT NUMBER
	5e. TASK NUMBER
	5f. WORK UNIT NUMBER
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) **U.S. Army Medical Materiel Agency Ft. Detrick, MD 21702**	8. PERFORMING ORGANIZATION REPORT NUMBER
9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES)	10. SPONSOR/MONITOR'S ACRONYM(S)
	11. SPONSOR/MONITOR'S REPORT NUMBER(S)

12. DISTRIBUTION/AVAILABILITY STATEMENT
Approved for public release, distribution unlimited

13. SUPPLEMENTARY NOTES
The original document contains color images.

14. ABSTRACT

15. SUBJECT TERMS

16. SECURITY CLASSIFICATION OF:			17. LIMITATION OF ABSTRACT	18. NUMBER OF PAGES	19a. NAME OF RESPONSIBLE PERSON
a. REPORT	b. ABSTRACT	c. THIS PAGE			
unclassified	**unclassified**	**unclassified**	**UU**	**114**	

Standard Form 298 (Rev. 8-98)
Prescribed by ANSI Std Z39-18

Acknowledgements

I would like to extend my gratitude to the following individuals for their guidance and support throughout the planning and execution of this project:

LTC Mitchell Brew, my preceptor and the Executive Officer at the Office of the Surgeon General's Directorate of Logistics, who selflessly gave his time and shared his experience; and in doing so provided invaluable direction and assistance throughout the course of this study.

LTC Christopher Roan, the Chief of the Army Medical Department Center and School's Logistics Management Branch for his subject matter expert assistance in constructing the questionnaire that served as the primary data collection instrument for the study.

Dr. A. Paul Mangelsdorf, U.S. Army-Baylor MHA program faculty member, for his guidance in developing the study's methodology and statistical framework.

LTC M. Nicholas Coppola (PhD), U.S. Army-Baylor MHA program faculty member, and my faculty reader, for providing valuable feedback that greatly enhanced the quality of the final product.

My wife Maureen and daughter Evelyn, their love and support made my graduate studies both possible and a rewarding experience.

Abstract

This study solicited feedback from Army medical logistics officers on the effectiveness of their previous institutional, operational, and self-development training in preparing them to accomplish their missions during the initial Operation Iraqi Freedom deployment (OIF 1). Additionally, the study sought to identify the potential benefit of additional training on key medical logistics tasks and training events. To answer these questions, the study employed a descriptive, cross-sectional methodology. Data was collected through distributing an 83-item questionnaire to individual officers (n=563), resulting in a 40.8% response rate (n=232). The results found the most effectively trained tasks related to the operation of a medical logistics supply support activity (e.g. manual supply procedures, warehouse operations, and inventory management). The least effectively trained tasks were operation and connectivity of medical logistics automated systems; these areas also encompass those with the greatest reported additional benefit. These results largely match the conclusions of existing OIF 1 after action reviews. The study results may be used to refine the current medical logistics officer's training model to address the training needs identified by the first hand feedback of OIF 1 participants. Further research is required to determine longitudinal trends in training needs or differences based on active/ reserve component group membership.

i. Table of Contents

ii. List of Tables

iii. List of Figures

A Medical Logistics Officer Training Needs Assessment

Utilizing Feedback from Operation Iraqi Freedom.

Introduction

This study is designed to examine the effectiveness of the current Army medical logistics officer training model and identify potential areas for improvement based on feedback from the initial Operation Iraqi Freedom deployment rotation (OIF 1). The concept of effectiveness is often qualitative in nature and has been defined as, "the achievement of outcomes acceptable to stakeholders" (Coppola, 2003, p. 21). Additionally, logistics has been described within a military context as, "the practical art of moving armies and keeping them supplied" Van Creveld (1977, p. 1). As demonstrated throughout history, effective logistics is essential to the overall success of any military operation. From Napoleon to Rommel, brilliant tacticians have, for centuries, been humbled by shortcomings in their logistics support structure, which contributed to their ultimate defeat (Magruder, 1991; Van Creveld). A deployed force's medical logistics support structure is especially critical given the *life or death* urgent nature this commodity assumes in supporting medical operations in a combat zone; and effective training programs assist in providing the base for effective support.

The need for this study emerged from the medical logistics support issues identified within OIF 1 medical After Action Reviews (AARs). These issues caused senior leaders within the Army Medical Department (AMEDD) concern over the ability of the medical logistics system to effectively support the deployed force. The execution of the medical logistics concept of support for OIF 1 relied on leaders' ability to put into place a supply chain that spanned three continents, while maximizing new business processes designed to limit the historically encumbering impact of logistics upon maneuver operations. Leader training is critical to the success of this, on going,

operation. Current medical logistics officer education and development follows the Army's overarching training doctrinal structure, consisting of three domains: institutional, operational, and self-development. Today's medical logistics officers receive standardized institutional training at the AMEDD Center and School, unit mission and task specific training through the operational domain, and improve themselves through self-development training enabled via a body of Army approved resources and civilian educational opportunities.

Despite this robust training infrastructure, similar medical logistics training lessons learned are repeated over time in feedback from recent major deployments prior to OIF, and from the Army's Combat Training Centers or CTCs (which include: the National Training Center (NTC) at Ft Irwin, CA, the Joint Readiness Training Center (JRTC) at Ft Polk, LA, and the Combined Maneuver Training Center (CMTC) in Germany). Previous research in other health care disciplines has demonstrated the value of training needs assessments as a tool to accurately measure the effectiveness of current training programs as well as directions for future training efforts. These studies provide a framework methodology for this study, which seeks to determine the effectiveness of medical logistics training. Feedback provided by medical logisticians, based on their experiences during OIF 1, provide the data for this assessment.

Conditions that Prompted the Study

Shortly after the official end of ground combat operations on 2 May 2003, the Army Office of the Surgeon General (OTSG) began to gather OIF 1 medical operations lessons learned. Challenges in medical logistics support operations emerged as a recurring theme in both the OTSG observations and from the AARs of tactical medical units in theater engaged in direct support of OIF 1. Some examples of issues presented in these AARs include: timely and accurate delivery of medical supplies to medical units did not occur on a routine basis, Divisional Medical

Supply Offices (DMSOs) did not stock medical materiel items necessary to support attached Forward Surgical Teams, and the inability to achieve automated medical logistics information systems communications connectively and interfaces; which required reverting to less responsive manual supply requisition procedures (AMEDD Lessons Learned, 2003).

Drawing upon these multiple sources, the OTSG's Directorate of Logistics (DOL) conducted a comprehensive OIF 1 AAR in August 2003. Within it, they identified four major challenges to medical logistics support during OIF: 1) logistics units arrived too late in theater; 2) medical units did not possess adequate communications for individual line item ordering of medical supplies; 3) the contents of existing medical materiel and equipment sets were a poor predictor of actual wartime needs and clinical customer's demands; and 4) medical logisticians (and leaders) did not possess the training or experience necessary to establish effective supply operations to support the clinical customer and deployed soldiers.

In response to these challenges, the Army Surgeon General directed the establishment of a medical Logistics Integrated Process Action Team (LOG IPAT) in the late summer of 2003 with the mission to further identify, quantify, and develop recommendations to address the issues identified as impeding OIF 1 medical logistics operations and establish immediate, mid-term, and long-term solutions. The LOG IPAT is chaired by Brigadier General Baxter, the Deputy Surgeon General for Force Sustainment, and its membership consists of: the OTSG DOL, subject matter experts from medical logistics activities (the United States Army Medical Materiel Agency-USAMMA, and the United States Army Medical Materiel Center Europe-USAMMCE), the Logistics Management Branch at the AMEDD Center and School, and other key OTSG directorates (e.g. Health Policy and Services, Information Management, Operations, and Pharmacy). The LOG IPAT is organized into teams corresponding to six domains of key

medical logistics operational competencies. The domains include: logistics performance, maintenance medications (prescription pharmaceuticals), automation and communications, material requirements and planning, material distribution, and training and leader development.

The LOG IPAT training and leader development domain team was specifically chartered to synthesize existing OIF 1 AAR data and anecdotal information relating to those medical logistics areas identified for improvement into overarching observations for corrective action. Key observations derived from this process include: a lack of standardized medical logistics automation systems training in deploying units, shortfalls in rehearsals and tests of medical logistics automation systems prior to deployment, inadequate previous training and operational experience in establishing and managing effective supply chain operations, and leaders lacking sufficient training in the operation and functions of medical logistics automation systems under austere deployment (i.e. tactical) conditions. Systems specifically cited include the Theater Army Medical Management Information System (TAMMIS), and the TAMMIS Customer Assistance Module (TCAM) (OTSG, 2003).

Based on these observations, the LOG IPAT training domain developed a list of required medical logistics training topics and tasks. These areas were further identified as training objectives for specific medical logistics units present within the combat health support continuum (e.g. DMSO, Area Support Medical Battalion, Corps Medical Logistics Battalion, etc.). From this process, a corrective action plan has emerged recommending near, intermediate, and long-term actions to infuse these areas into follow-on unit's (e.g. OIF 2) pre-deployment training. This study's focus is designed to identify and measure the magnitude of areas for potential long-term revision in medical logistics officer's training and development and, using quantitative data, build upon the efforts of the OTSG LOG IPAT training and leader

development domain team.

Statement of the Management Question

This study asks the question: how effective was prior institutional, operational and self-development training in preparing medical logistics officers to accomplish their medical logistics mission(s) based on self-reported feedback from their OIF 1 experience(s)? After determining the answer to this question, the study then examines what specific medical logistics competency areas require additional training efforts. By obtaining data on how medical logistics officers perceived the value of their previous training in arming them with the knowledge and experience required to successfully accomplish their OIF 1 mission, the AMEDD's leadership can gauge the current effectiveness of its medical logistics training programs using the most recent major combat operation as a benchmark. By providing reliable and timely information on the self-assessed training shortfalls of medical logistics officers, AMEDD decision makers can refine existing programs and focus guidance on self-development opportunities to improve medical logistics officer training. The overall intent of this effort is to set the conditions to provide comprehensive, responsive, and focused medical logistics support to tactical clinical operations through updated training programs, re-focused by the first-hand feedback that is available.

Literature Review

This section provides an overview of the OIF 1 medical logistics concept of support, current applicable Army training doctrine, how medical logistics training programs implement this doctrine, and key medical logistics training lessons learned from both OIF 1 and other prior deployments to provide background information relating to the context of this study. Additionally, the results of previous studies conducting training needs assessments within various healthcare disciplines are presented.

OIF 1 concept of medical logistics support

Since Operation Desert Shield/ Desert Storm in 1991, the Army's medical logistics support doctrine has evolved in line with the rest of the military's combat service support community. These changes primarily involved shifting from a system that relied upon robust in-theater stocks and capabilities (traditionally known by Army logisticians as, *the Iron Mountain*) to a reduced and more flexible deployable *footprint* of units and materiel (Brew & Baker, 2003). This paradigm shift in logistical support operations was embraced by OIF 1 medical planners, and is enabled by the integration of commercial vendor sources and the utilization of supply chain management automation technologies such as TAMMIS and its TCAM module.

TAMMIS, the legacy medical logistics automated information system in use over the past three decades, is deployed at the Army's Theater, Corps, and Division levels to facilitate medical logistics unit's management of medical materiel stocks and the conduct of re-supply operations (Department of the Army, 2001). This is achieved through system-wide connectivity across the various levels of the medical logistics support continuum (i.e. division, Corps, and theater level medical logistics units). The newer TCAM module web enables and electronically links medical (and non-medical) unit customers via the internet to their supporting medical logistics unit's TAMMIS computer to order medical supplies, review catalog information, see on-hand item balances, and check the status of outstanding orders (Brew & Baker, 2003). The successful implementation of the OIF 1 medical logistics concept of support relied upon officers trained in establishing a automations enabled medical logistics supply chain on a global level.

The distribution and procurement of medical materiel into the OIF 1 Theater of operations starts at the Defense Supply Center Philadelphia (DSCP), in Pennsylvania. DSPC is responsible for establishing and monitoring medical materiel Prime Vendor contracts that provide the joint

military services with commercial medical supplies as well as managing military unique medical materiel at continental United States (CONUS) based depot facilities (Brew & Baker, 2003). Materiel destined for the OIF Theater of operations was transported from either CONUS or USAMMCE (located in Germany) to the theater distribution center in As Sayliyah, Qatar (OTSG DOL, 2003). Led by the 6th Medical Logistics Management Center, the United States Army Medical Materiel Center-South West Asia (Provisional) (USAMMC-SWA (P)), also located in Qatar, served as the Single Integrated Medical Logistics Manager (SIMLM). The SIMLM is responsible for orchestrating medical logistics support for all OIF and Operation Enduring Freedom forces (both U.S. joint and coalition) on a theater-wide level. This included the key tasks of coordinating operations with strategic level organizations (e.g. DSCP and USAMMCE), managing theater inventories, and using distribution based logistics to move medical materiel to air hubs near tactical medical supply support activities and combat support hospitals throughout the theater. These tactical units then distributed supplies on an area basis to medical (and non-medical) end users within their respective areas of operational responsibility. See Figure 1 for an overview of the inter and intra distribution of medical materiel into and within the OIF 1 Theater of operations.

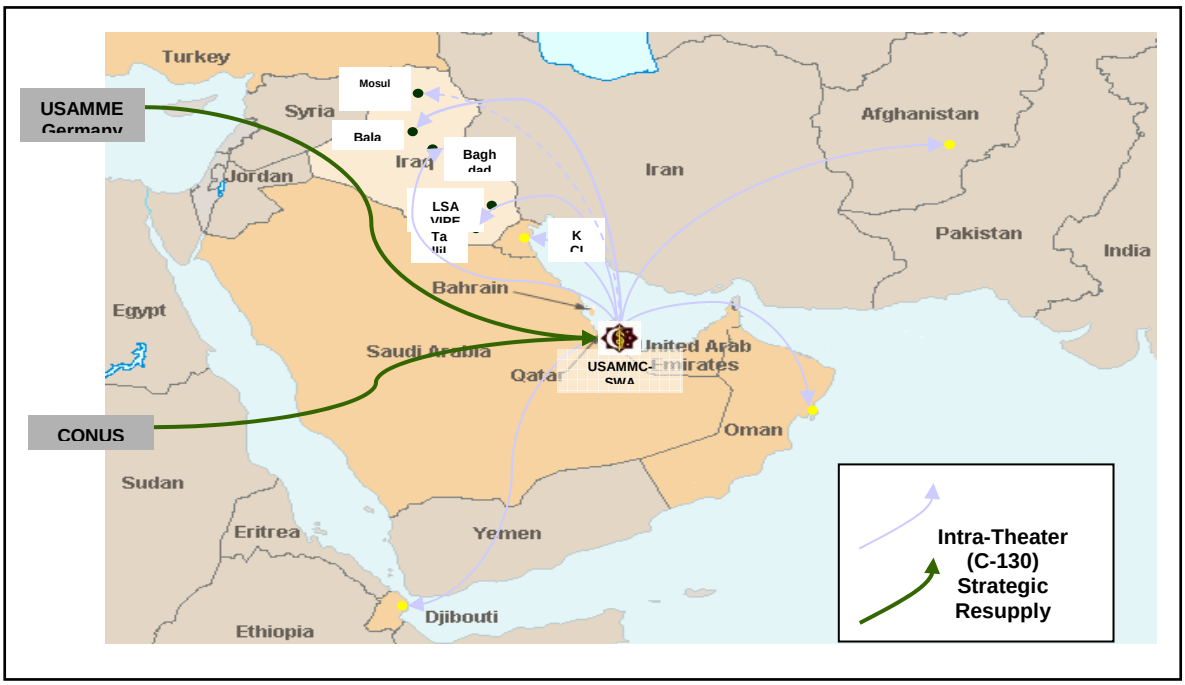

Figure 1. OIF 1 medical logistics concept of support (on about June 2003): Medical materiel distribution flow (adapted from OTSG DOL briefing dated 6 August 2003)

In an effort to bridge the tenants of emerging Army logistics doctrine, which relies on a distribution based system and a reduced footprint for the logistical and sustainment infrastructure, the Army medical logistics community employed the use of pre-positioned stocks and *just in time* force modernization fielding of new advanced technology medical equipment to early deploying units (OTSG, 2003; Brew & Baker, 2003). Medical logistics operations in support of OIF 1 are considerable in both scope and complexity; they span three continents and, as of early 2004, encompass over $180 million in equipment and supplies (Fry, 2004). Medical logistics provides the foundation of the AMEDD's ability to effectively deliver all health service support required to sustain the deployed force.

The success of both initial deployment and on-going mature theater medical sustainment efforts are contingent upon medical logistics officer's ability to effectively and efficiency plan,

adapt, and execute seamless operations at all levels. This requires maximizing the capabilities of the automated medical logistics information management systems addressed above, as well as the ability to put into place a responsive distribution operation. A medical logistics officer's ability to execute these mission critical tasks is significantly reduced by shortcomings in training.

Current Army training doctrine

Contemporary Army training doctrine outlined in Field Manual 3.0, *Training the Force,* defines training as, "the instruction of personnel to increase their capacity to perform specific military functions and associated individual and collective tasks." (Department of the Army, 2002, glossary). From this operational definition, the Army's Training and Doctrine Command has developed a triad structure for core military training and educational domains: institutional, operational, and self-development. This design serves as the framework for shaping the learning experiences of soldiers and officers during their military careers (Kidd, 2003). The institutional domain encompasses formal training courses conducted at the various Army Centers and Schools that teach established Programs of Instruction (POI). Examples of this domain include: basic training, advanced individual training, and the officer’s basic and advanced courses. The operational domain includes both individual and unit level collective training experienced during assignments to various units (e.g. CTC rotations, field training exercises, operational deployments). The self-development domain captures any course of instruction that a soldier pursues outside of the institutional and operational training domains at their own initiative. These training opportunities may include: civilian education courses, military correspondence courses, professional organization membership activities, and personal professional reading (Kidd). Today's medical logistics officers are trained and professionally developed in accordance with this triad doctrinal framework.

Medical logistics officer training model

The AMEDD implements the Army's triad approach when training its medical logistics officers by establishing a technical knowledge base through institutional training programs, exercising this knowledge base and capabilities through operational training, and encouraging self-development via widely accessible enablers. All facets of this application of the training triad are focused on honing and expanding the skill set of medical logistics officers to ensure they possess the most current tools required to accomplish their respective missions. Institutional training programs serve as the foundation of this effort (Department of the Army, 2002).

In addition to the uniform requirement to complete the AMEDD's Officers Basic Course, medical logistics officers, designated as Area of Concentration (AOC) code 70K, must graduate from the ten week long Health Services Materiel Officers Course (informally referred to as the 70K or *kilo* course) conducted at Fort Sam Houston, Texas prior to serving in the discipline (Department of the Army, 1995). This course serves as the basis of a medical logistics officer's unique training and is designed to, "provide training in the principles and techniques used in the management of logistical functions in Army hospitals and field medical units" (Academy of Health Sciences, 2002, p. 3). The course is taught by warrant, senior company grade, and field grade medical logistics officers and consists of 382 hours of academic instruction. The two primary areas of course instruction include: employing automated medical logistics systems (98 hours) and tactical medical logistics supply chain planning, operations, and management (112 hours), of which 34 hours are dedicated to multi-functional, non-medical, logistics operations. (Academy of Health Sciences). Although other, more specialized training courses exist, such as the USAMMA Medical Logistics Management Internship Program, the Health Services Materiel Officers Course forms the core of unique mandatory institutional training required of all medical

logistics officers.

Operational training conducted at the unit level builds upon and refines the skill set learned by medical logisticians from their previous institutional training. Army Training and Evaluation Program (ARTEP) manuals define the collective, leader, and individual tasks that serve as the foundation for the unit level operational training component of the training triad. ARTEP manuals are specific to like-type medical logistics units and link mission critical tasks across the continuum of medical logistics support. ARTEP's also serve as the basis by which a medical logistics unit's ability to execute the key tasks required to successfully complete its mission are evaluated. Operational training can be executed in a field environment under simulated combat conditions or via the conduct of daily mission support activities. Key operational training venues include: CTC rotations, home station field training exercises (FTXs), external evaluations, simulation exercises (SIMEXs), and other less intense training venues (e.g. weekly sergeants time training, officer and non-commissioned officer professional developments, etc.); or providing garrison based medical logistics support to customer units. Additionally, mission focused pre-deployment training, executed during the period between receipt of a mobilization order and the actual deployment, provides units with an opportunity to sharpen their skills on mission critical tasks. This training is especially important to reserve component units due to the limited time they have to train these tasks during annual training and weekend drill periods. Given the scope of operational training opportunities, they make up the majority of the training a medical logistics officer will undergo over the course of his or her military career (Department of the Army, 2002).

Self-development training is intended to augment the more formal venues of institutional and operational training. Although not uniformly structured, this leg of the Army's training triad has

evolved to encompass those off-duty activities that expand the skill set and knowledge base of medical logistics officers (Kidd, 2003). This area may encompass: executing personal professional development reading programs, taking courses through civilian education venues, visiting professionally focused sites on the internet (e.g. AMEDD lessons learned and medical logistics lessons learned), and involvement in the membership activities offered by professional organizations (e.g. the American College of Healthcare Executives and the Association of Healthcare Resource Material Managers). Other, AMEDD specific and endorsed, self-development opportunities are available through the centrally funded graduate degree programs of the Long Term Health Education Training Program and through the Training with Industry Program (placing medical logistics officers with civilian healthcare firms as interns). Although the training of medical logistics officers is thoroughly resourced, structured, and comprehensive via the institutional, operational, and self-development domains, key themes in training deficiencies emerge when examining lessons learned from recent deployments.

Recent medical logistics training lessons learned

Though often anecdotal in nature, the feedback and complied observations from recent training and operational deployments has frequently served as the basis for determining the direction of future training focus. The majority of medical logistics training lessons learned from recent operations are tied to the issues of automation systems and supply chain management processes. These two areas, as highlighted by the OIF 1 concept of support, are critical to establishing and operating a responsive medical logistics operation in support of deployed forces.

Examples of training issues experienced with the function of medical logistics automation systems are typically generated from a unit's inability to operate TAMMIS. This trend, highlighted by Observer Controllers at the JRTC, identified that medical logistics units often

lacked the knowledge and ability to employ their TAMMIS systems. This often causes several days of unnecessary lag time for operational system input, resulting in medical supplies reaching critically short stockage levels during their training rotations (Center for Army Lessons Learned, 1999). Another similar scenario occurred during Operation Restore Hope in Somalia, where the initial medical logistics battalion deployed to the Theater of Operations was unable to operate TAMMIS and lacked the prerequisite knowledge base to execute forward deployed medical supply management activities (Walters, 1996). Most recently, the OTSG's DOL identified that several Corps level units deployed in support of OIF 1 experienced similar issues, and were not able to set up or operate TAMMIS (OTSG DOL, 2003). In each instance, the case for additional training emphasis on medical logistics automation systems are highlighted by this recurring identified shortcoming.

The need for additional supply chain management training is also illustrated by the experiences of initially deployed units in support of Operation Enduring Freedom in Afghanistan and those engaged in OIF 1. Regarding the former, AAR comments revealed that end user customer medical units were delayed in ordering needed medical supplies due to confusion regarding support relationships, and supply requisition processes and mechanisms. This resulted in unnecessary delays in the establishment of medical supply accounts and an increase in customer wait time for supplies (Center for AMEDD Lessons Learned, 2003). During OIF 1 it was identified that basic internal medical supply ordering processes were often not established which resulted in a heavy reliance upon manual *work-arounds* in-lieu-of ordering through the formal medical supply system (OTSG DOL, 2003). These issues, along with those from OIF 1 AARs, point to a requirement to complete a medical logistics officers training needs assessment in an effort to identify and quantifiably determine the direction and magnitude of key areas for

renewed training focus.

Previous studies

Many previously conducted research studies have demonstrated that surveys and questionnaires administered to personnel currently employed in various healthcare related disciplines may be used to reliably identify areas for additional training emphasis (Brosseau, 1995; Jacobs, Herbst, & Simmer, 2003; Silverman, Goodine, Ladouceur, & Quinn, 2001). Other studies have indicated that survey instruments targeting those currently operating in a healthcare discipline may be used to validate the curriculum of existing training programs (Chisick, 1994). In a Senate Subcommittee hearing on the results of a training study conducted by the General Accounting Office, the GAO Associate Director for Federal Management and Workforce Issues, stated: "[The] high-performing organizations we contacted consistently approached the design and implementation of their training and development programs by identifying the knowledge, skills, abilities, and behaviors employees need" (GAO, 2000, p.2).

Much of the existing literature examining training needs assessments within healthcare disciplines is comprised predominately of studies that involve civilian personnel within the nursing, physician, and public health fields. Published quantitative research exploring the training needs of military medical personnel is sparse, and often focused on clinical personnel. A training needs assessment of Army enlisted medical logistics personnel using data collected from the field is in its initial phases, with results and conclusions yet to be drawn (M. McCormick, personal communication, September 21, 2003). Despite these limitations, the previous studies cited below have validated the use of needs assessment instruments (e.g. surveys and questionnaires) to determine where training deficiencies exist and where additional effort should be allocated. Additionally, they assist in providing a conceptual framework for research

methodologies applicable to conducting training needs assessment studies of military personnel.

One such study by Hellerstedt, Smith, Shew, and Resnick (2000) examined health professionals' knowledge and interest in training on adolescent pregnancy prevention; and demonstrates an effective methodology in identifying the training needs of a defined population. This study utilized a cross-sectional survey mailed to a random stratified sample of 800 psychologists, 800 social workers, 1,000 nurses, and 400 pediatricians that yielded 1,242 data sets for analysis (a 41% response rate). Descriptive statistical analysis conducted on the data focused on perceived knowledge and interest in training about adolescent pregnancy prevention for each of the four provider disciplines and were correlated for three survey content areas: sex education and contraceptive counseling, adolescent pregnancy, and counseling after a negative pregnancy test. The results of the study found that less than half of the nursing, pediatrics, psychology and social workers reported a high self-perceived knowledge in the three content areas, with psychologists and social workers reporting the lowest perceived knowledge. With the exception of psychologists, over two thirds of respondents indicated moderate or high interest in additional training in the three content areas. Conclusions drawn from the study identified that psychologists and social workers may benefit from focused professional training about their disciplines role in preventing adolescent pregnancy (Hellerstedt et al.). The methodological framework used in this study provides an example of how a descriptive, cross-sectional approach may be used to determine training needs for a specific group or population.

Another large-scale study by Gale, Reder, and Conratt (1998) of the Northwest Center for Public Health Practice at the School of Public Health and Community Medicine at the University of Washington identified and explored the key demographic characteristics and training needs of community and public health professionals in Washington State. The study used a mailed

questionnaire survey instrument that was sent to all 2,349 employees of state and local health departments. The study achieved a 56% response rate, with 1,316 surveys available for the research. Using descriptive statistics as the basis of their analysis, the Gale study determined the demographic profile of the sample and reported the top training needs identified across occupational categories (i.e. clinicians, administrators, environmental/ occupational health, lab scientists, researchers, and inspectors/ surveyors). The top three topics identified for additional training emphasis by respondents included: communication skills, data analysis and utilization, and written communication. The study also recommended that more in-depth examination of these topics was required prior to designing and implementing training programs, and suggested further study be conducted via focus groups (Gale et al.).

When developing questionnaires or surveys to assess training needs, the psychometric principles of the data collection instrument should be considered to ensure a study's methodology, results and conclusion are valid. Reineck, Finstuen, Connelly, and Murdock (2001) conducted a study to construct and evaluate the psychometric properties of the Readiness Estimate and Deployability Index (READI) instrument, which is used to estimate the level of individual readiness among U.S. Army nurses. The READI employs a five point Likert scale measurement system in a 105-item survey consisting of six sub-scales that each represent a domain of readiness (clinical nursing competency, operational nursing, soldier and survival skills, personal/ physical/ psychosocial, leadership/ administrative, and group identification). The instrument’s content validity was achieved via tests involving eight expert raters. The study indicated that the READI was a valid and reliable instrument for use with the Army nursing populations via three test field administrations that yielded coefficients of reliability (Cronbach's alpha) ranging from 0.72 - 0.91 for each of the six readiness domains measured. The researchers

also recommended institutionalizing the READI through command personnel status reporting channels based on their study's demonstration of the instruments validity and reliability (Reineck et al.).

Murdock (2001) built upon the Reineck study, administering the READI to active duty (n=188) and reserve (n=56) Army nurses assigned to units within or supporting the AMEDD North Atlantic Regional Medical Command. The purpose of the study was to compare the differences between the active and reserve component groups in order to determine and report the deployment readiness level of each group. Results were presented using descriptive statistics augmented by a graphic panoramic display format. Active duty nurses rated their readiness higher than reserve nurses in the clinical nursing, operational competency, survival skills, and personal/ physical/ psychosocial domains. Reserve component nurses rated their readiness higher than their active duty colleagues in the leadership/ administrative support and group identification/ integration domains. The study recommended that commanders use the READI as a tool to achieve a detailed profile of how nurses rate their own deployment readiness and identify areas where additional training needs exist (Murdock).

Purpose

Utilizing a methodology similar to those presented in the literature review, this study is designed to determine the effectiveness of previous medical logistics training in preparing medical logistics officers to successfully complete their mission(s) during OIF 1 and identify core medical logistics officer competency areas for additional training efforts. The data for the study was obtained from an 83-item, self-administered questionnaire. This questionnaire was distributed in November and December of 2003 via e-mail to Army active duty and non-active duty (i.e. reserve and national guard) component medical logistics officers who supported OIF 1

in both a forward deployed or CONUS based posture.

The dependent variables in the study are the effectiveness of past medical logistics training and the perceived benefit of future additional training on core medical logistics officer knowledge, skills, and ability areas. As mentioned previously, effectiveness may be measured by the degree to which an actions outcome(s) are deemed acceptable to stakeholders (Coppola, 2003). In the realm of military medical logistics acceptable outcome(s) are measured by the ability of the medical logistics system to deliver the correct medical supplies to the right end user unit in both a timely manner and an appropriate quantity. Additionally, medical materiel is a unique commodity in that demand is driven by wide variation in individual clinical practice(s) as well as lifesaving urgency.

For the purpose of this study, training effectiveness is operationally defined as the ability of past training to achieve these outcomes based on the self-reported assessments of the study sample from their experiences during OIF 1, as measured by 43 independent variables. *Training benefit* is operationally defined for the purpose of this study as the usefulness of an aid or an enabler. *Future training benefit* within this study addresses the self-assessed value (per the study's sample) gained from additional training on key medical logistics officer tasks and is measured by 28 independent variables. A profile of each respondent’s military demographical, operational assignment background is provided by twelve additional independent variables. This framework is designed to provide salient background and demographic information on the sample group, address all facets of the Army's doctrinal training domains structure as they relate to medical logistics officer training, and examine the level of future training benefit for key medical logistics training areas. As a result, the conditions are set for an overall analysis of current training effectiveness and the benefit of additional future training. The independent

variables are further organized into the five construct sub-scales depicted in Table 1. See also Appendix A for a list of sub-scale variable coding.

Table 1

Independent Variable Construct Sub-Scales

Sub-scale constructs	Number of independent Variables	Variable type	Measures
Demographics	12	Interval and continuous	Key background data of sample
Institutional training	20	Interval	Institutional training effectiveness
Operational training	18	Interval	Operational training effectiveness and frequency of training events
Self-development training	5	Interval	Self-development training effectiveness and frequency
Future training	28	Interval	Benefit of future additional training

Notes. See Appendix A for a list of sub-scale variable coding. See Appendix C for a copy of the questionnaire.

Methods and Procedures

This medical logistics officers training needs assessment study employs a descriptive, cross-sectional methodology. Descriptive studies are designed to define a subject by creating a profile of a group of problems, people, or events via the gathering of data and the tabulation of frequencies; these studies are used to determine who, what, when, where, and how much of a particular variable exists (Cooper & Schindler, 2001). This methodology differs from a longitudinal approach in the timeframe the data encompasses. Cross-sectional studies are carried out once and are used to represent a snapshot of one particular point in time; whereas longitudinal studies are repetitive, using data collected over a specific period of time (i.e. months

or years) to track chronological changes in variables (Cooper & Schindler). In this study, a descriptive cross-sectional approach was chosen based on the population parameter for measurement: medical logistics training effectiveness and benefit of future training, as determined by the sample of questionnaire respondents within the context of their experiences supporting OIF 1.

Sampling Procedures, and Means of Gathering Data

A questionnaire developed to address individual demographical information, prior medical logistics training effectiveness, and future training benefit serves as the data-gathering instrument for this study. As demonstrated in the literature review, a written questionnaire is a frequently used and widely accepted tool to analyze and document the learning needs of personnel employed within a wide variety of health care disciplines. The study sample was obtained by distributing a self-administered questionnaire to a target population provided by the OTSG DOL consisting of all 377 active duty and 186 select non-active duty (reserve and national guard) Army medical logistics officers (AOC 70K). Permission to conduct the study and deploy the questionnaire was obtained from the OTSG, Chief, DOL. The Army Deputy Surgeon General for Force Sustainment, BG Sheila Baxter, signed a cover letter that accompanied the questionnaire, addressing the purpose of the study. See Appendix B for a sample copy of cover letter.

The study population was identified through contact rosters of active duty and non-active duty medical logistics officer personnel provided by the OTSG, DOL. The data collection instrument was deployed to the study population using a two-phase electronic mailing (e-mail), which utilized AMEDD global Microsoft Outlook and Army Knowledge On-line e-mail addresses contained within the OTSG contact rosters to ensure focused and accurate dissemination. The initial questionnaire deployment (phase I) was conducted on 16 NOV 03, and requested

respondent completion by 1 DEC 03. A follow-up e-mail (phase II), resending the cover letter and questionnaire, was sent to all non-responders to the first deployment on 1 DEC 03 with a return suspense of 15 DEC 03. Data collection operations ended on 19 DEC 03, at which time the data set was finalized for the study.

Questionnaire development

The data collection instrument (questionnaire) was developed using a ten-step process for conducting training needs assessments designed by Bice-Stephens (2001) and utilizes key techniques designed for instruments of respondent communication, as outlined by Cooper and Schlinder (2001). Additional questionnaire formatting and Likert scale construction methodologies were adapted from a RAND study on the training impact of the 1992 Army Reserve Component *Bold Shift* Program (Hawes-Dawson, Kaganoff, Polich, & Sortor, 1994). Attending early sessions of the OTSG LOG IPAT in the late summer of 2003 provided background information necessary to identify specific issues relevant to the management question. From this, an initial list of instrument questions was developed. This list was modified and formatted into constructs (sub-scales) paralleling the Army's training domains structure (institutional, operational, and self-development). Also addressed were questions regarding future training needs, and sample demographic information. After a series of internal reviews and revisions involving the OTSG DOL, the instrument was sent to the Chief of the Logistics Management Branch at the AMEDD Center and School for a subject matter expert assessment of instruments overall content validity. After executing the revisions this process generated, the questionnaire was pilot tested for format and content clarity with an eleven-member focus group of active duty and reserve Army medical logistics officers.

The final revised version of the questionnaire for the study is an 83-item instrument organized

into five sections addressing: 1) demographic information; 2) the effectiveness of institutional training; 3) the effectiveness of operational training and frequency of training medical logistics key tasks and events; 4) the effectiveness of self-development training and time dedicated to this domain; and 5) the benefit of future training on key medical logistics tasks and areas. See Appendix A for the sub-scale coding system employed for sections one through five of the questionnaire. A *not applicable* response is available for all questions within sections two through five that will not affect the Likert scale score for the item. The fifth section (future training benefit) is rounded out with two stand alone optional write-in questions that provide respondents an opportunity to identify: 1) other medical logistics training area(s), not listed within the questionnaire, in which they feel they would benefit; and 2) general comments on medical logistics training issues related to OIF 1. See Appendix C for a copy of the questionnaire.

Validity and reliability

Within a research context, validity is defined as the, "extent to which differences found with a measuring tool reflect the true differences among respondents being tested" (Cooper & Schindler, 2001 p. 211). Content validity encompasses the degree to which the body of items used as measures satisfy the universe of all relevant items that are being studied (Copper & Schindler). Content validity is paramount to any study using a questionnaire as the primary data collection instrument as it verifies the construction of the questionnaire (i.e. is it asking the right questions salient to the purpose of the study). Frequently, content validity is achieved through the use of judgmental or expert panel evaluations. The content validity for this study's questionnaire was established through a series of reviews conducted by medical logistics training subject matter experts from the OTSG DOL and Logistics Management Branch of the AMEDD Center

and School. This process assured all items listed on the questionnaire represented an accurate and applicable measure for assessing the effectiveness of medical logistics training and core competencies for additional training benefit within the context of OIF 1 operations. The panel recommended changes that were subsequently incorporated into the final version of the 83-item questionnaire deployed to the study population.

The data collection instrument's (questionnaire) reliability was addressed with the use of questions measured via a Likert-type scale in sections two through five. Reliability characterizes and measures the accuracy, precision, and consistency of a data collection tool (Cooper & Schindler, 2001). The Likert scale was used to express respondent attitude to questionnaire statements (questions) and is useful in measuring whether an organization's efforts have had the desired effect (Cooper & Schindler). The data set generated by the administration of the questionnaire yielded a high degree of internal consistency for the subscales within sections two (institutional training), three (operational training), and five (future training) of the questionnaire. Cronbach's alpha coefficient for these subscales were: 0.93, 0.90, and 0.94 respectively (0= No reliability and 1 = perfect reliability). These results demonstrate the consistency of these questionnaire sub-scale items in measuring the same underling constructs, training effectiveness for sections two and three and benefit of future training for section five. The alpha coefficient for Section four (self-development training) was lower, 0.68, affected by the relative small number of variables within the subscale (n= 4), consequently imposing a limitation on the use of the results originating from data contained within this subscale.

Experiment design and data analysis techniques

The study is designed to identify the level of effectiveness of current medical logistics training and areas for additional training focus based on responses gained from the study sample.

Data from returned questionnaires was entered into the Statistical Package for the Social Sciences data analysis program (SPSS version 11.5). A double verification method was employed for data entry operations (i.e. all data was entered into a spreadsheet format in numerical sequence order and verified in reverse order, to confirm accuracy of data input). Descriptive demographic classification data was computed and reported for each item contained within the first subscale (background information) to establish a profile of the study sample. Descriptive statistics (means, maximums, minimums, and standard deviations) and frequencies were computed for all interval scaled item variables to create the sample demographic profile (section one) and to identify and report the direction and magnitude of training effectiveness and areas of future training benefit (sections two through five). Where necessary, the sample size (n) was reduced to ensure case-wise integrity and account for *not applicable* responses to scaled item variables. Written comments to questionnaire items 70 and 71 were recorded as they appeared and analyzed for the emergence of significant trends or themes.

Ethical considerations

The methodology used to collect and analyze data for the study is designed to protect the individual identify of the respondents. All respondents were assured within the text of both the questionnaire's instructions and accompanying cover letter that their responses would remain confidential. No unique individual identifiers of participants were used to code the data collection instrument or within the data set once complied. Response data from completed questionnaires was purged of the respondents e-mail address upon receipt and assigned a non-descript record number, thereby achieving anonymity of responses. Respondents were given the opportunity to elect to receive the results of the completed study by voluntarily providing personal contract information (e.g. an e-mail or mailing addresses) when returning their

questionnaire.

Results

By the end of the data collection period, 232 completed questionnaires were received (187 active duty and 45 non-active duty) out of a total of 563 (377 active duty and 186 non-active duty) deployed to personnel within the population sample group. The overall response rate was 40.8% (49.1% active duty and 24.2% non-active duty). Those respondents reporting that they had not directly supported OIF 1 operations from either a deployed or institutional support (CONUS based) basis were screened out of the study sample. This resulted in n=149 (125 active duty and 24 non-active duty) total responses for analysis. See Appendix D for a complete list of descriptive statistics and frequencies for all 83 questionnaire variable items.

Sample military demographic and background profile

Data gained from section one (background) of the questionnaire was used to provide a profile of the sample and is used to assist in further interpreting study results in the discussion section. Sample profile areas include: military demographic data, operational experience, institutional training, and OIF 1 operational experience. Table 2 depicts the military demographic profile of the sample. The majority of respondents were captains and majors (i.e. mid-careerists, having around 10 years of commissioned service). Most were active duty, and almost all identified themselves as *straight* medical logistics officers (i.e. AOC 70K, without additional medical logistics sub-specialty skill training such as facilities management or automations systems).

Table 2

Military Demographic Profile

Variable	Valid N	Percent or Average
Rank		
2LT	0	0%
1LT	5	3.4%
CPT	61	40.9%
MAJ	51	34.2%
LTC	26	17.4%
COL	6	4.0%
Years Commissioned Service	147	13.2 years
Component		
Active Duty	124	83.2%
Non-Active Duty	25	16.8%
Medical Logistics Specialty		
Logistics (70K)	130	87.2%
Facilities	7	4.7%
Logistics Automations	3	2.0%
Other (e.g. contracting)	9	6.0%

Notes. 2LT=second lieutenant (O1), 1LT=first lieutenant (O2), CPT=captain (O3), MAJ=-major (O4), LTC= lieutenant (O5), COL=colonel (O6); Non-Active Duty = U.S. Army Reserve and National Guard officers; 70K= area of concentration code for an Army medical logistics officer

The prior operational experience of the study sample is presented in Table 3. The majority of respondents had served in staff 70K duty positions (e.g. unit supply officer/ S4, medical materiel management officer, etc.) in Corps level units. Very few had leadership or command positions (platoon leader, company/ battalion commander) while serving in a 70K billet in a medical logistics unit. A majority (136 out of 148 respondents) had also served in non-70K AMEDD positions. Most served in leadership or command positions while away from 70K assignments,

with the largest percentage being in divisional units (59 responses or 39.6%).

Table 3

Previous Operational Experience

Variable	Valid N	Percent
70K Duty Positions		
Medical Supply Officer	45	31.0%
Staff Officer	93	64.1%
Leadership/ Command position	7	4.8%
70K Duty Units		
Division	15	10.3%
Corps	55	37.9%
Echelons above Corps (TOE)	27	18.6%
TDA	48	33.1%
Non-70K Duty Positions		
Staff position	38	28.0%
Leadership/ Command position	98	72.1%
Non-70K Duty Units		
Division	59	39.6%
Corps	31	22.8%
Echelons above Corps (TOE)	15	10.1%
TDA	31	22.8%

Notes. TOE= Table of Organization and Equipment (tactical) unit; TDA= Table of Distribution and Allowances or institutional/ fixed facility based units

The previous military and medical logistics institutional training of the sample are displayed in Table 4. A large majority (> 80%) had completed required institutional training through or beyond the Combined Arms Services Staff School (CAS3). All but two respondents were graduates of the Medical Logistics Officer course and almost a third (30.9%) had completed the United States Army Medical Materiel Agency's (USAMMA) internship program. Additionally, many respondents were formally trained in facilities management or had attended other medical logistics focused training (e.g. contracting, acquisition management, training with industry,

support operations course, etc.). The majority of respondents (69.3%) attended the medical logistics course after 1990.

Table 4

Previous Institutional and Medical Logistics Training

Variable	Valid N	Percent
Highest level of Military Training Completed		
OBC	8	5.4 %
OAC	19	12.8 %
CAS3	68	45.9 %
CGSC	48	32.4 %
SSC	5	3.4 %
Medical logistics training		
Medical Logistics Officer Course	147	98.7 %
USAMMA Internship	46	30.9 %
Facilities Management	29	19.5 %
Other (e.g. contracting internship)	25	16.8 %
Multiple (i.e. more than one of the above)	21	14.1 %
Year attended Medical Logistics Officer Course		
Prior to 1980	4	2.8 %
1980- 1985	15	10.5 %
1986- 1990	25	17.5 %
1991- 1995	43	30.1 %
1996- 2000	46	32.2 %
After 2000	10	7.0 %

Notes. OBC= Officer Basic Course; OAC= Officer Advanced Course; CAS3= Combined Arms Services Staff School; CGSG= Command and General Staff College; SSC= Senior Service College; USAMMA= United States Army Medical Materiel Agency

OIF 1 duty locations, positions, and units of assignment for the study sample are depicted in Table 5. Most supported OIF 1 operations from locations either OCONUS within the OIF 1 Theater or in CONUS. The most common duty position was staff officer, followed by leadership and command positions. The majority (> 60%) were assigned to TOE units, with the preponderance being Corps level and above units.

Table 5

OIF 1 Duty Location, Position, and Unit

Variable	Valid N	Percent
OIF 1 Support Location		
CONUS	59	39.6 %
OCONUS (not in OIF 1 theater)	29	19.5 %
OCONUS (in OIF 1 theater)	61	40.9 %
OIF 1 Duty Position		
Medical Supply Officer	24	16.2 %
Staff	94	63.5 %
Leadership/ Command Position	30	20.3 %
OIF 1 Duty Unit		
Division	14	9.5 %
Corps	41	27.9 %
Echelons above Corps (TOE)	34	23.1 %
TDA	58	39.5 %

Notes. CONUS= continental United States; OCONUS= outside of the continental United States; TOE= Table of Organization and Equipment (tactical) unit; TDA= Table of Distribution and Allowances (institutional/ fixed facility based unit)

In addition to quantifying the duty locations, positions, and types of units the sample supported OIF 1 from, respondents were asked to assess the likeness of their peacetime duties to their actual wartime mission. Using a five-point Likert scale (1=not at all similar, 5=extremely similar) the majority of the sample (71.1%) indicated that their OIF 1 duties and responsibilities were either *somewhat, very,* or *extremely similar* to those they routinely execute during peacetime garrison operations. Figure 2 illustrates the overall frequencies of the sample response to this question.

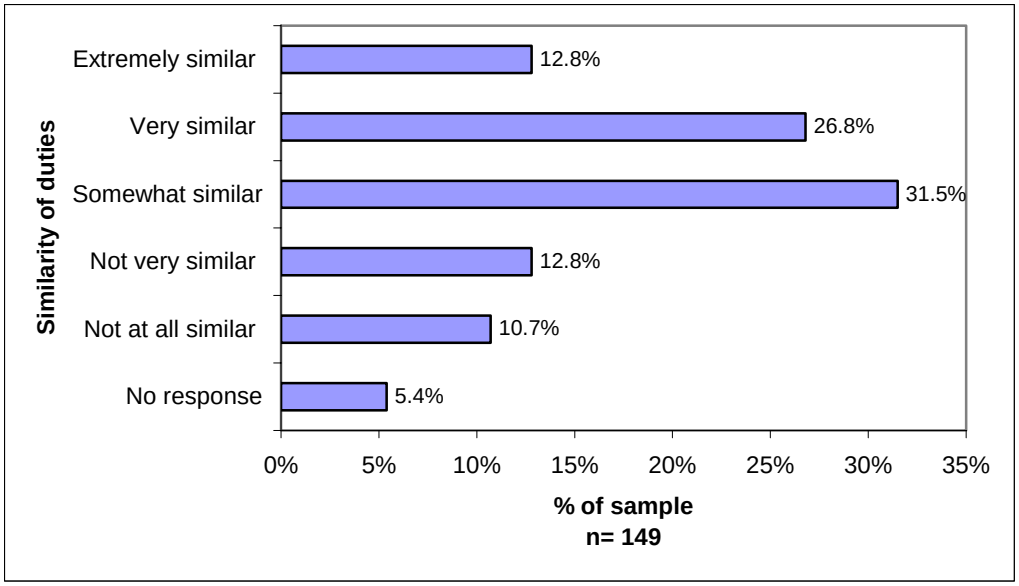

Figure 2. Similarity of officer's peacetime duties to OIF 1 wartime mission

Institutional training

Using a Likert scale of 1 to 5 (1=not at all effective and 5=extremely effective) the sample respondents judged their previous institutional training for the following medical logistics officer competency areas as most effective: manual supply procedures, medical supply inventory management, medical materiel warehouse operations, medical supply chain management, and operational medical logistics doctrine. Joint deployment formulary use, managing laboratory materiel items, integrating pharmacists in medical logistics operations, automated medical logistics systems (e.g. TAMMIS and TCAM) connectivity, and cold chain item management were rated as the core competency areas least effectively trained in the institutional setting. See Table 6 for the mean score and standard deviation of the five highest and lowest rated areas of institutional training effectiveness.

Table 6

Mean Scores and Standard Deviations of the Highest and Lowest Rated Areas of Institutional Training Effectiveness

Most Effectively Trained Areas	Valid N	Mean	Standard Deviation
Manual supply procedures	146	3.57	1.07
Medical supply inventory management	145	3.53	0.78
Medical materiel warehouse operations	141	3.35	0.98
Medical supply chain management	142	3.25	0.94
Operational medical logistics doctrine	144	3.24	0.83
Least Effectively Trained Areas	**Valid N**	**Mean**	**Standard Deviation**
Joint deployment formulary use	130	2.15	1.07
Managing laboratory materiel items	133	2.26	1.09
Integrating pharmacists in medical logistics opns	136	2.35	1.06
Automated medical logistics systems connectivity	133	2.38	1.09
Cold chain item management	136	2.46	1.15

Note. Likert Scale Coding: 1= not at all effective, 2= not very effective, 3= somewhat effective, 4= very effective, 5 = extremely effective

Operational training effectiveness and frequency

Using a Likert scale of 1 to 5 (1=not at all effective and 5=extremely effective) the sample rated the following prior operational training experiences as the most effective in preparing them to accomplish their OIF 1 medical logistics mission: medical logistics tasks trained during unit-level field training (FTXs), medical logistics external support tasks trained during CTC rotations (e.g. supplying forward customer units with medical materiel), and medical logistics internal support tasks training during CTC rotations (e.g. in-house medical supply sections providing medical material to wards within an combat support hospital). Respondents reported medical logistics tasks trained during simulation exercises (SIMEXs), professional mentoring

programs, and medical logistics automation systems training events as their least effective prior operational training experiences. See Table 7 for the mean scores and standard deviation of the three highest and lowest rated areas of operational training effectiveness.

Table 7

Mean Scores and Standard Deviations of the Highest and Lowest Rated Areas of Operational Training Effectiveness

Most Effectively Trained Areas	Valid N	Mean	Standard Deviation
Internal medical logistics support tasks trained at CTCs	113	3.43	0.96
External medical logistics support tasks trained at CTCs	113	3.34	1.01
Medical logistics tasks trained during FTXs	139	3.32	0.97
Least Effectively Trained Areas	**Valid N**	**Mean**	**Standard Deviation**
Medical logistics tasks trained during SIMEXs	122	2.84	1.12
Professional mentoring programs	129	2.94	1.12
Medical logistics automations systems training events	129	2.95	1.11

Note. Likert Scale Coding: 1= not at all effective, 2= not very effective, 3= somewhat effective, 4= very effective, 5= extremely effective; FTX = field training exercise(s); CTC= combat training center(s)

In addition to rating the effectiveness of operational training, the frequencies of unit-level training on medical logistics tasks during key operational training events (e.g. CTC rotations, FTXs, and EXEVALs) and medical logistics focused training events (e.g. operating medical logistics automations systems while in a field environment) were explored. Using a Likert scale of 1 to 5 (1=never and 5=always) respondents rated the frequency of these types of training at unit level. Medical logistics tasks were most likely trained during unit internal training (e.g. FTXs, SGTs Time, etc.) and on CTC rotations. Medical logistics tasks were least likely trained during SIMEXs and leader development training. Units most frequently executed medical

logistics focused training by providing support to units in a field environment. However, responses indicated that units were less likely to train on operating or establishing communications connectivity with logistics automations support systems (e.g. TAMMIS or TCAM). See Table 8 for the mean scores and standard deviations of the study sample's experiences in this area.

Table 8

Mean Scores and Standard Deviation for Key Medical Logistics Operational Training Event Frequency

How frequently did you/ your unit train medical logistics support tasks during the following events?	Valid N	Mean	Standard Deviation
Internal unit training (e.g. FTXs, SGTs time, etc.)	142	3.45	1.06
CTC Rotations	113	2.99	1.22
EXEVALs	133	2.95	1.15
Leader development training	141	2.91	1.03
SIMEXs	126	2.74	1.15
How frequently did you/ your unit execute the following medical logistics training events?	**Valid N**	**Mean**	**Standard Deviation**
Provide medical logistics support to customer units in a field environment	143	3.27	1.11
Operating medical logistics automated systems	142	2.99	1.22
Establishing medical logistics automated systems connectivity	143	2.65	1.25

Note. Likert Scale Coding (frequency of training): 1= never, 2= seldom, 3= sometimes, 4= often, 5 = always; FTX= field training exercise(s); EXEVAL= External Evaluation; SIMEX= Simulation or computer based exercise

Self-development training

See Table 9 for the mean scores and standard deviations for the effectiveness of self-development training and time dedicated to this domain. Using a Likert scale of 1 to 5 (1=not at all effective and 5=extremely effective), respondents rated the effectiveness of their self-development training in preparing them to accomplish their OIF 1 medical logistics mission(s). The most effective self-development training areas were those that are more structured in nature. The least effective were those that relied more heavily on the individual officer's initiative to complete. The majority of respondents (63.2%) indicated that they spend less than two hours per week pursuing medical logistics focused self-development training.

Table 9

Mean Scores and Standard Deviation for Self- development Training Effectiveness and Time Dedicated to Self-development Training

Training Area	Valid N	Mean	Standard Deviation
Military conference and seminar attendance	136	3.49	0.82
Civilian education programs and classes	113	3.38	0.96
MEDLOG Professional organization membership	93	2.88	1.20
MEDLOG focused professional reading programs	118	2.73	0.93

Hours per week dedicated to Self-development training	Valid N	Percent
< 1 hour	40	27.8%
1-2 hours	51	34.2%
3-4 hours	33	22.9%
5-6 hours	6	4.2%
> 6 hours	14	9.7%

Notes. Likert Scale Coding: 1= not at all effective, 2= not very effective, 3= somewhat effective, 4= very effective, 5 = extremely effective; MEDLOG = medical logistics

Future Training

Respondents were asked to report how much they would benefit from additional training on the same core medical logistics competencies listed in Section 2 (Institutional Training) and additional key operational training events from Section 3 (Operational Training). Using a five point Likert scale (1=definitely not benefit and 5=definitely benefit), respondents indicated their level of future training benefit for these areas. Table 10 depicts the top five areas respondents identified as holding the greatest potential for additional training benefit and the lowest five areas with the least additional training value.

Table 10

Mean Scores and Standard Deviations of the Highest and Lowest Rated Areas for Future Additional Training Benefit.

Most Future Training Benefit	Valid N	Mean	Standard Deviation
Automated medical logistics systems connectivity	144	4.67	0.68
Operation of medical logistics automation systems	143	4.62	0.67
Greater emphasis on MEDLOG support tasks during unit FTXs	141	4.47	0.82
Greater emphasis on exercising the MEDLOG system at CTCs	140	4.46	0.84
Operational MEDLOG doctrine	145	4.43	0.71
Least Future Training Benefit	**Valid N**	**Mean**	**Standard Deviation**
Manual supply procedures	145	3.63	1.18
Warehouse operations	144	3.83	1.08
Information on MEDLOG professional organizations	145	4.00	0.91
Medical supply inventory management	144	4.02	0.97
Integration of pharmacists in MEDLOG operations	145	4.06	0.93

Notes. Likert Scale Coding: 1= definitely not benefit, 2= probably not benefit, 3= unsure of benefit, 4= probably benefit, 5 = definitely benefit; MEDLOG = medical logistics; FTX = field training exercise(s); CTC= combat training center(s)

The future training section was rounded out by two free response write-in questions allowing respondents the opportunity to identify other areas of medical logistics training they could

benefit from and to provide additional comments on medical logistics training issues in general. These questions generated 47 and 51 responses respectively. A review of these comments revealed some common themes. In the area of additional training benefit, multiple officers identified a need for greater focus on joint and coalition medical logistics interoperability issues, facilities management, acquisition and contracting skills, and readiness tasks (i.e. strategic deployment out-load tasks and pre-positioned stocks planning integration at unit level). Many respondents also highlighted the following general training issues: 1) disparities between peacetime garrison and wartime tactical medical logistics operations, business processes, and automations systems; 2) too few tactical medical logistics unit assignments available, causing a shortfall in hand-on operational experience opportunities; 3) too much focus on fixed facility (TDA hospital) medical logistics operations and skills within the institutional training realm; 4) a desire for a periodic institutionally based refresher training and doctrine update program; and 5) more centralized funding for professional training courses and seminars. See Appendix E for a list of written responses to these two questions.

Discussion

Military demographic profile and background

The military demographic rank profile of the study sample (refer to Table 2) generally mirrors the overall active duty AOC 70K population. The Army Medical Service Corps Homepage personnel asset inventory histograms lists the 382 active duty AOC 70K Medical Service Corps officers in the following rank structure: 0 % 2LT, 2.4 % 1LT, 46.9 % CPT, 26.2 % MAJ, 17.0 % LTC, and 5.2 % COL (2003). The relative small sample size of the non-active duty population (n=25) may limit the applicability of the study results to that overall demographic group of Officers.

A majority of officers in the sample had previously served in both AOC 70K and non-70K duty positions (91.2%). The primary AOC 70K duty position served in was that of staff officer, with less than one third of the sample having medical supply officer duty positions and very few having served in leadership and command positions (i.e. MEDLOG platoon leader, company, and battalion commander) while in medical logistics units. The majority of time spent in non-70K positions occurred in divisional or Corps level tactical (TOE) units; and over 70% of the sample served in leadership positions while in non-70K positions. The high rate of AOC 70K officers serving in both 70K and non-70K positions is largely the result of three primary driving factors, supported by the demographic data and by some written comments received on the questionnaire. First, the vast majority of Medical Service Corps officers do not become eligible to track AOC 70K (which requires successful completion of the Medical Logistics Officer course and service in a AOC 70K coded TOE or TDA assignment for one year) until their third or fourth year of commissioned service. As a result, a vast majority of 70K officers serve in AOC 70B operational assignments early on in their careers. Second, due to the small number of tactical medical logistics units (there are eight total medial logistics battalions, three and five in the active and reserve components respectively) a limited number of AOC 70K officers have the opportunity to serve in either medical supply officer (accountable officer) or unit leadership and command positions in this type of unit. Finally, due to these conditions, the early to mid-career assignment paths of AOC 70K officers are not clear-cut and easily defined by a progressive series of medical logistics (AOC 70K) duty positions. This results in many officers serving in non-70K billets to get career enhancing command or primary staff jobs for promotion competitiveness.

The advanced level of formal military institutional training completed by the sample (81.7%

CAS3 graduates) is largely the result of the rank structure and average time in service. A significant percentage (67.2%) of sample members had completed one or more advanced medical logistics institutional training courses or programs (e.g. the USAMMA internship). These results indicate that many officers take advantage of additional institutional medical logistics training opportunities offered beyond the entry-level medical logistics officer course. It is interesting to note, however, that despite these results and the fact that over 39% of the sample had recently completed the medical logistics course within the last seven years, some officers identified a need for a periodic institutionally based refresher medical logistics skills and doctrine course in their questionnaire written comments. This sentiment is most likely the result of recent changes in both doctrine and automation systems technologies.

The geographic location from which sample members supported OIF 1 parallels the distribution of available AOC 70K assignments, representing duty positions available in CONUS, OCONUS (not in the OIF theater) and OCONUS (in OIF theater) locations. The sample distribution of duty position and type of unit assigned is also reflective of the current OIF 1 force structure and types of assignments available to AOC 70K officers. In general, the aggregate sample indicated (as depicted in Figure 2) that their peacetime garrison medical logistics duties were parallel to those of their OIF 1 wartime mission, with 71.1% stating they were somewhat, very, or extremely similar. When this figure is more closely examined though, it significantly decreases as the respondent's location gets closer to the actual OIF 1 Theater of operations. See Figure 3 for the percentage of respondents reporting their garrison duties as somewhat, very, or extremely similar to their OIF 1 wartime mission based on the geographic location from which they supported OIF 1 operations.

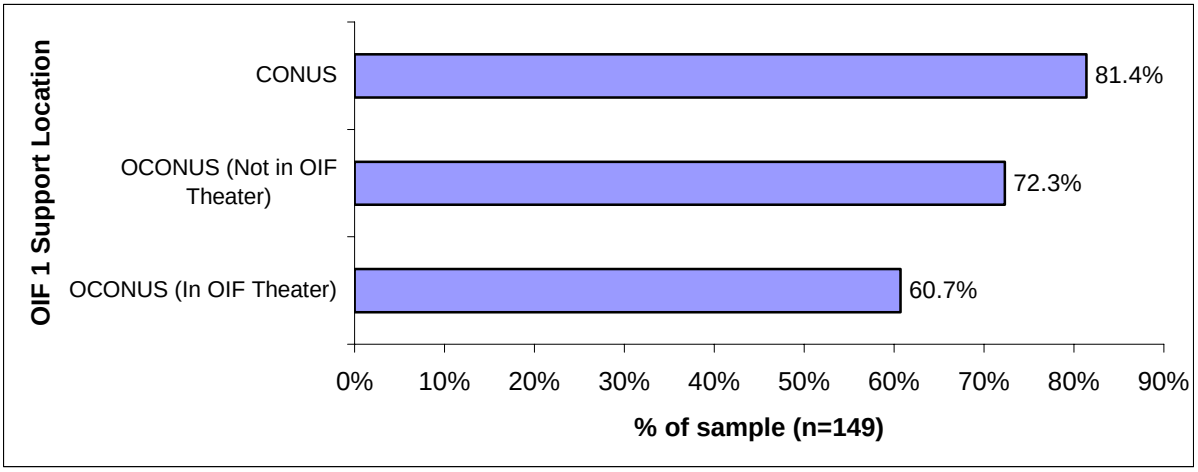

Figure 3. Percentage of officer's reporting their peacetime duties and OIF 1 wartime mission were somewhat, very, or extremely similar based on the geographic location from which they supported OIF 1 operations

The shift in perception on this issue may be caused by responses from officers deployed in support of OIF 1 via the Professional Filler System (PROFIS) (a variable not measured by the data collection instrument and possible area for future study); or the result of actual disparities between peacetime garrison and wartime tactical deployed medical logistics operations, processes, and systems, which was cited in many respondent written comments to questionnaire item 71.

Effectiveness of previous training

The results of the study concerning the effectiveness of institutional, operational, and self-development training largely agreed with and quantified much of the information contained within OIF 1 participating tactical unit's medical logistics focused OIF 1 AARs and the conclusions of the OTSG LOG IPAT. In general, the study results confirm that institutional and operational training efforts related to medical logistics automations systems, using joint deployment formularies, and managing unique low-density medical material (e.g. cold chain and laboratory items) were generally ineffective. The overall mean training effectiveness rating

(1=not at all effective and 5=extremely effective) for the twenty skills, knowledge, and abilities (variables) measured under the institutional domain was 2.87, between *not very effective* and *somewhat effective* (2 and 3 on the five point Likert scale) with a standard deviation (SD) of 0.42. The mean training effectiveness rating, using the same measurement scale, for the ten operational and four self-development domain variables were 3.14 (SD=0.19) and 3.12 (SD=0.37) respectively.

Institutional training

Those areas identified as the most effectively trained within the institutional domain are closely linked to the operation and management of medical supply support activity (SSA) or warehouse operations. Manual supply procedures, medical supply inventory management, and medical materiel warehouse operations and operational doctrine are all critical skills to successfully executing a garrison based medical SSA. Although identified as an OIF 1 shortfall by the LOG IPAT, medical supply chain operations was highlighted as one of the most effectively trained areas of institutional training by the study results. This could be the result of how this variable item was phrased on the questionnaire, which did not include with the word *tactical* to effectively make the distinction between garrison peacetime and wartime operations.

The areas identified as least effectively trained suggest a current training deficiency exists within the key skills sets associated with providing tactical medical logistics support operations in a deployed environment. These areas included: joint deployment formulary use, integration of pharmacist input into medical supply operations, achieving automated medical logistics systems connectivity in a field (tactical) posture, and laboratory material item and cold chain item management. Typically many of the actions associated with these functions are not routinely exercised in the conduct of peacetime garrison medical logistics support operations as they are in

a wartime tactical deployed setting. An example of this is the fact that in many AMEDD hospitals (TDA fixed facilities), the Department of Pathology contracts for and manages laboratory reagents items with its own prime vendor source of supply independent of the AOC 70K officers in the facility's Department of Logistics.

Operational training and frequencies of training

The majority of training an AOC 70K officer will experience during their career occurs within this domain; which may explain why operational training had the highest aggregate effectiveness rating of the three training domains. The results revealed that the operational training areas cited by the sample as being the most effective were those that provided maximum opportunities for actual hands-on medical logistics support task performance within high op-tempo tactical training settings such as CTC rotations and FTXs. These settings also allow medical logisticians to practice their craft by providing support to end user customer units in an austere operating environment.

The operational training domain tasks identified by the study results as being least effective were those that possessed minimal hands-on support opportunities (i.e. simulation exercises) or were already identified as weak areas within the institutional domain (medical logistics automations systems training). Additionally, professional mentoring programs were cited as lacking overall effectiveness. This issue however, is not unique to the medical logistics training setting as both the AMEDD and Army as a whole have struggled over time to define and implement mentoring programs that achieve desired results (Lenza, Moore, Rivera, & Goodman, 2002).

The effectiveness of operational training efforts are directly linked to their frequency of occurrence, lending credence to the old adage of *practice makes perfect* or the Army's adaptation

of this, *train as you fight*. Units were most likely to execute tactical medical logistics training during unit internal training events (e.g. FTXs and SGTs Time Training), at CTC rotation(s), or in conjunction with external evaluations. Medical logistics task training occurred less frequently during dedicated leader development training events and simulation exercises. This is most likely due to training resource issues, as units are able to execute local training events and centrally programmed and funded CTC rotations with limited external coordination and expenditure of required resources and materials. Results in the area of the frequency of training medical logistics tasks also highlight that units are likely to train, in the field, tasks associated with providing medical supply support to their customer units. However, they are employing their automated information systems (e.g. TAMMIS and TCAM) and practicing systems connectivity less frequently in the same tactical training environment.

Self-development training

Study results indicate that the most effective training within this domain occurs in a structured setting (i.e. military conferences and seminars and civilian education programs). When areas in this domain are less formal (e.g. personal profession reading programs) or rely more on the individual officer for execution (e.g. professional organization membership) they are less likely pursued and less effective. The effectiveness ratings for this training domain are in large part conditional to the individual. Sample respondents who dedicated more time to self-development generally rated the effectiveness of these areas higher than those who spent less time engaged in self-development training pursuits. The mean difference in training effectiveness scores for the four variables (questionnaire items 39-42) in this domain for the sample group spending less than one hour per week were 0.64, 0.39, 1.12, and 0.80 lower than the group engaged in self-development training pursuits more than six hours per week. Additionally, the group spending

the most time engaged in self-development training was more likely to participate in civilian professional organization (e.g. the Association of Healthcare Resource and Material Managers-AHRMM) activities than the group spending the least amount of time; 64.3% vs. 47.5% respectively.

Future training benefit

The results of the data analysis for this section of the questionnaire strongly indicate an interest and need for additional training in many of the 26 variable items surveyed. The variables contained within this subscale had an aggregate mean of 4.24 (SD 0.23) for the measure of additional training benefit (1= definitely not benefit and 5=definitely benefit).

The results found automated medical logistics information systems connectivity and operation as the two topic areas holding the most future training benefit. This finding is absolutely congruent with key conclusions of the LOG IPAT. Additionally, placing more emphasis on medical logistics support task training during unit FTXs and CTCs rotations were in the top five areas identified as having the greatest additional training benefit. This result is in line with the findings contained within the operational training domain, where these same areas were also identified as being among the most effective medical logistics training venues. Interestingly, operational medical logistics doctrine rounded out the top five areas for future training focus, but was also identified as one of the most effectively trained areas within the institutional domain. This could be the result of the broad scope of this topic area or possible respondent misunderstanding over what is actually included under this area by its operational definition.

The areas identified as possessing the least additional training benefit largely parallel those areas rated as already most effectively trained in the institutional domain. Manual supply procedures, warehouse operations, and medical supply inventory management skills were each

identified within the top five most effectively trained topics in the institutional domain and five lowest areas of future training benefit for this variable subscale. Although integration of pharmacists into medical logistics operations was identified among the five least effective institutionally trained areas, it too was among the five areas with the least perceived additional training benefit. It should be noted though, that the mean future training benefit rating for this area was 4.06 (SD 0.93), *probably benefit*. These somewhat ironic results suggest that AOC 70K officers are generally unsure of pharmacist's role or utility in medical logistics operations. The final area rounding out the lowest five rated areas of additional training benefit was information on civilian medical logistics professional organizations, although again the mean future benefit rating was high (M= 4.00, SD 0.91). This result could also stem from a general lack of understanding over the existence, role, and potential benefit of these types of organizations. This theory is supported by the results from the self-development section concerning this area, where 56 respondents (37.6 % of the sample) responded *not applicable* to this item within the self-development section.

Post-hoc analysis

In a post-hoc analysis, questionnaire item responses were compared between active duty (Group 1) and non-active duty (Group 2) respondents using the two-sample t-test. For this analysis the sample size differed from the original cross-sectional descriptive study, and was enlarged to include all questionnaire responses received. This resulted in a sample consisting of 187 active duty and 45 non-active duty officer respondents (n= 232). The sample size was reduced to account for not applicable responses to the 83 variable items. Given the small size of the non-active duty sample group, homogeneity of variance among the two groups was confirmed using Levene's Test for equality of variances. All statistical analysis was conducted

using SPSS (version 11.5). Results of this post-hoc analysis yielded significant differences at the alpha= .05 level in the responses of the active duty and non-active duty populations to the nine questionnaire items (questions) depicted in Table 11; and homogeneity of the variance is confirmed for all but two of these items (34 and 49) by the Levene Test. Refer also to Appendix C for a copy of the questionnaire.

Table 11

Post-hoc Analysis: Questionnaire Items With Significant Differences in the Responses of Active Duty and Non-active Duty Officers

Questionnaire Item #	t	df	p (2-tailed)	Mean Difference	Levene Statistic
25	3.374	212	.001	.550	.091
29	2.888	192	.004	.560	.323
31	2.116	165	.036	.570	.332
34	2.316	215	.021	.420	.028
36	2.588	215	.010	.530	.698
37	2.078	212	.039	.440	.532
38	4.120	220	.000	.740	.677
49	2.454	224	.015	.310	.007
68	2.520	227	.012	.350	.056

Notes. t= results of two-sample t test; df= degrees of freedom, p= probability

The active duty group mean scores for questionnaire items 25, 29, 31, 34, 36-38, and 49 were significantly higher than those of the non-active duty group. The active duty group mean score for item 68, which addressed training benefit of on-line medical logistics professional development resources, was significantly lower than the non-active duty group. It is interesting to note that the questionnaire variable items where the majority of the differences between these two groups exist are contained predominantly within the operational training domain and relate

to the use of automation systems or providing medical logistics support in a training setting (questions: 25, 29, 31, 34, and 36-38). Active duty officers rated the effectiveness of medical logistics tasks trained during internal unit training (question 25) and pre-deployment training (question 29) higher than their non-active duty counterparts. Additionally, the active duty group reported a greater frequency of medical logistics tasks trained at CTCs (question 31) and during unit internal training events (question 34) than their non-active duty collogues. The active duty group also reported a greater frequency of training on operating medical logistics automations systems (question 36), establishing connectivity with these systems (question 37), and providing medical logistics support to customer units in a field/ austere environment (question 38) than the non-active duty group. These results are not surprising given that active duty medical logistics officers spend an immeasurably greater amount of time dedicated to these tasks than their non-active duty counterparts (who, unless activated and deployed, have the opportunity to train these areas only one weekend a month and two weeks a year during weekend drills an annual training).

The remaining two questionnaire items where differences between the two groups exist were contained within the future training needs section of the questionnaire. Active duty officers reported greater potential benefit for additional training on operating automated medical logistics information systems (e.g. TAMMIS and TCAM) than did non-active duty sample members (question 49). Non-active duty officers stated greater potential benefit than the active duty group from web (internet) based medical logistics professional development resources (question 68). This latter finding is also consistent with the relatively small amount of time non-active duty officers have dedicated to training in a unit-based setting.

Given the results, two primary conclusions can be drawn from this active/ reserve component group post-hoc analysis of the study data. First, applicability of the primary study

results to both the active and non-active duty groups is suggested for 60 of the 69 questionnaire items examined where no statistically significant differences emerged based on group membership. Second, the root cause of the majority of the nine questionnaire items where significant differences in responses based on component group membership were found may be attributable to the issue of training time resources available.

Conclusions and Recommendations

This study solicited feedback from medical logistics officers on the effectiveness of their previous institutional, operational, and self-development training in preparing them to accomplish their missions during OIF 1. Additionally, the study sought to identify the potential benefit of additional training on key medical logistics tasks and training events. The results of this two-fold mutually supporting methodology provided the data used to execute the training needs assessment.

The applicability of the study results to the overall medical logistics officer community is strongly suggested. The sample group rank structure distribution largely mirrors the aggregate active duty AOC 70K force structure. Additionally, the sample represents all possible support locations, key duty positions, and types of units from which AOC 70K officers supported OIF 1. Finally, the sample contains officers from both the active and non-active duty components; and the results of the post-hoc analysis yielded no significant differences in responses based on component group membership for the vast majority of questionnaire variable items assessing prior training effectiveness and areas of future training benefit.

The results of this study confirm many of the training shortfalls already identified by multiple sources addressing medical logistics operations during previous training and operational deployments, as well as during OIF 1. In particular, the issue of medical logistics automation

systems operation and tactical connectivity emerges as an area requiring additional training emphasis. The results of this study largely parallel the conclusions regarding this issue contained within tactical unit OIF 1 medical AARs and the conclusions of the OTSG LOG IPAT. The direction and magnitude of the automation and connectivity issue(s) is revealed by the study's results, where it repeatedly is manifest across key training domains. It appears among the top five least effectively trained areas in the institutional domain, is among the least effectively and frequently trained areas in the operational domain, and is identified as the top area holding the most future training benefit by the study sample. Additionally, in many written comments to the questionnaire, respondents stated that their respective units do not use the same medical logistics support processes, procedures, or systems in garrison (peacetime) as they do in the tactical (wartime) settings. These results, in conjunction with the cumulative body on knowledge on this subject from OIF 1 AARs and process action teams, strongly suggest a critical training opportunity exists within this area.

The results also identified three areas of needed training not expressly addressed by existing historical literature or OIF 1 AARs and IPATS. First, emerging medical logistics officer's technical competencies, such as cold chain item management and joint formulary use, were identified as generally ineffectively trained areas within the institutional domain. Joint formulary use and other joint interoperability issues relating to providing medical logistics support demonstrate the potential for additional training effort in the near future. This issue is also a focus of the current Army Chief of Staff, who has made educating Army leaders to function more effectively as members of a joint services team a priority (Schoomaker, 2004). Second, within the operational domain, the study found the most effective training events were those executed under austere simulated battlefield conditions (e.g. CTCs and FTXs), which maximize

exercising medical logistics support systems and process. These themes were also echoed within the future training section, where respondents identified additional emphasis on medical logistics support tasks during these types of training events among the top five areas of most additional benefit. This premise is also highlighted in many of the questionnaire written comments as well (see Appendix E). Finally, under the self-development domain, the issue of medical logistics professional organization membership activities emerged as an under utilized and misunderstood resource based on both the large percentage of respondents who judged this variable as not applicable to them and its overall low effectiveness rating. The study results from these areas suggest that medical logistics officer's training needs are not isolated to one venue, but instead exist across all the training domains.

Senior AMEDD and medical logistics leaders may use the results of this study as a quantitative benchmarking tool to confirm or deny existing conclusions on the issue of medical logistics officer's training needs based on the OIF 1 experience to date. According to the current and a past Chief of the AMEDD Center and School's Logistics Management Branch, this is the first contemporary quantitative study of medical logistics officers training needs. When taken in conjunction with the work of the LOG IPAT, the results of this study may serve to assist in refining, refocusing, or redirecting existing medical logistics training programs and efforts to address current training needs identified through feedback from those in the field.

The study results suggest future focus areas for additional medical logistics officer's training emphasis are multi-dimensional in nature and not limited to one training domain or a single venue. Within the institutional domain, greater effort is needed in automation system operation and connectivity training for junior officers with a focus on hands-on task mastery. Additionally, opportunities to provide more thorough foundations in key technical tasks such as cold chain

management and integration of pharmacists into planning and execution processes exist within this training venue. The AMEDD Center and School's Logistics Management Branch may use the results of the study in conjunction with OIF 1 AARs to revise the current course POI to address training needs identified in these areas.

The issues of automations systems operation and connectivity training are also identified by the study as areas for improvement within the operational training domain. The study identified a need to train in these areas more frequently in a tactical setting, and reinforce these skills on a daily basis by using the same systems and processes in the peacetime garrison setting. This presents both a significant training opportunity and challenge for unit level commanders. Dedicating appropriate resources to these tasks is essential in meeting this training need and sustaining long-term proficiency for this mission critical area. Additionally, more structured leader mentorship programs spearheaded by appropriate agencies (e.g. the AMEDD's Directorate of Combat Doctrine Development or OTSG) may provide an avenue by which these areas are addressed organization-wide.

Due to its decentralized, and relatively unstructured nature, the self-development training domain is the most difficult to impact on a significant scale. Although it appeared among the areas of least perceived future training benefit, medical logistics professional organization membership was rated as a 4.00 on the five-point scale (probably benefit) by the study sample under the future training section. Adopting a model similar to the Air Force, where civilian professional organization membership and certification is highly encouraged through a *yes / no* block on their officer's efficiency reports, may encourage more widespread involvement in such organizations, yielding more participation and subsequent training dividends.

This study was designed to assess medical logistics officer's training needs through

quantifying the effectiveness of previous training executed across the Army's training domain framework and identifying those areas holding the greatest future training benefit. It is exploratory in nature and the results are intended to be descriptive rather than conclusive. Since the study's design is cross-sectional, its findings represent a given medical logistics officer population's identified training needs at one point in time. As a result, further research would be required (and a longitudinal study methodology adopted) to assist senior AMEDD medical logistics leaders in identifying possible trends in training needs over time as the OIF deployment, doctrine, and new technologies evolve and emerge. Additionally, given recent reductions in active duty medical logistics force structure and subsequent greater reliance on the reserve component during both this and foreseeable future deployments, delineating the unique training needs of non-active component from active duty medical logistics officers emerges as an area of future research value.

Training, and in particular leader training, is critical to the success of our Army. Effectively identifying and refining training programs based upon quantified training needs stemming from recent operational experience in a deployed environment will prepare medical logistics leaders to anticipate requirements and provide decisive support to future combat operations. As combat service support doctrine and operations evolve to meet the increased agility of the 21st century joint war fighter, the Army medical logistics community must also adapt. Updating medical logistics officer's training to meet current needs is a key component to sustaining system-wide success; and is essential to medical logistics fulfilling its mission as the *cornerstone of Army medicine*.

References

Academy of Health Sciences, Army Medical Department Center and School (2002). *Program of Instruction: Health Services Materiel Officer Course*. (Approved: 11 February 2002). Ft Sam Houston, TX 78234-6100

Army Medical Department (AMEDD) Lessons Learned (2003). Medical logistics after action review comments. Retrieved September 16, 2003, from https://secure-ll.amedd.army.mil/

Bice-Stephens, W. (2001). Designing a learning-needs survey- 10 steps to success. *The Journal of Continuing Education in Nursing*, 32(4), 150-151.

Army Medical Service Corps Homepage (2003). AOC 70K Health Services Materiel Personnel Inventory Histogram dated 29 JUN 03. Retrieved December 30, 2003, from http://medicalservicecorps.amedd.army.mil/career_management/histograms.htm

Brew, M. & Baker, D. (2003). The transformation of medical logistics since operation desert storm. *Army Magazine*, 53(6).

Brosseau, L.M. (1995). Results of a survey to assess curriculum needs for academic training programs. *American Industrial Hygiene Association Journal*, 56(9), 905-910.

Center for Army Lessons Learned (2000). Joint readiness training center trends and tactics, techniques, and procedures. Retrieved August 25, 2003, from http://call.army.mil/products/ctc_bull/00-2/contents.htm

Chisick, M. C. (1994). Quality and adequacy of training of expanding function dental auxiliaries in the U.S. army. *Military Medicine*, 159(8), 562-568.

Cooper, D. R. & Schindler, P. S. (2001). *Business research methods*. New York, New York: McGraw-Hill. 136, 146-148, 292-367, 760, 761.

Coppola, M. N, (2003). Correlates of military medical treatment facility (MTF) performance: measuring technical efficiency with the structural adaptation to regain fit (STARFIT) model and data envelopment analysis (DEA) (Doctoral dissertation, Virginia Commonwealth University, 2003).

Department of the Army (2001). *Field manual 4-02.1, combat health logistics.* Washington, DC: Headquarters, Department of the Army.

Department of the Army (2002). *Field manual 7.0, training the force*. Washington, DC: Headquarters, Department of the Army.

Department of the Army. (1995). *DA Pamphlet 600-4 Army medical department officer development and career management*. Washington, DC: Headquarters, Department of the Army.

Fry, W. (2004). *OIF 1 Theater MEDLOG Support Operations Overview for USAMMA Interns*. (2004, February, 20) Powerpoint briefing slide 10.

Gale, J., Reder, S., & Conratt, L. (1998). *A profile and training needs assessment of community/ public health professionals in Washington state*. Seattle, WA: University of Washington, School of Public Health and Community Medicine.

Hawes-Dawson, J., Kaganoff, T., Polich, J. M., & Sortor, R. E. (1994). *1992 Bold shift program, survey instruments.* Santa Monica, CA: RAND Corp.

Hellerstedt, W. L., Smith, A. E., Shew, M. L., & Resnick, M. D. (2000). Perceived knowledge and training needs in adolescent pregnancy prevention. *Archives of Pediatric Adolescent Medicine*, 154, 679-684.

Jacobs, R. R., Herbst, J., Simmer, E. (2001). *Training needs assessment of local health department professionals for Hampton Roads and western Virginia*. Unpublished manuscript, Eastern Virginia Medical School/ Old Dominion University.

Kidd, M. S. (2003). Training logisticians in the objective force. *Army Logistician*, 35(5), 30-34.

Lenza, R., Moore C., Rivera, M., and Goodman, R. (2002). Strengthening officer development through mentoring. *United States Army Medical Department Journal*, PB 8-02-7/8/9 July-September, 38-42.

Magruder, C.B. (1991). *Recurring logistics problems as I have observed them.* Washington, D.C.: Center of Military History, 119-130.

Murdock, P. H. (2001). *U.S. Army nursing readiness: a field administration of the readiness estimate and deployability index (READI) in the North Atlantic Regional Medical Command (NARMC)*. Unpublished manuscript, Baylor University.

Office of the Surgeon General, Directorate of Logistics. (2003). *After Action Review Medical Logistics Support to Operation Iraqi Freedom*. (2003, August, 6) Powerpoint briefing slides, 5, 6, and 14.

Reineck, C., Finstuen, K., Connelly, L., & Murdock, P. (2001). Army nurse readiness instrument: psychometric evaluation and field administration. *Military Medicine*, 166, 931-939.

Schoomaker, P. J. (2004). Our Army at War. . . Relevant and Ready. *Soldiers Magazine*, 59 (1), foldout excerpt.

Silverman, B. E., Goodine, W. M., Ladouceur, M. G., & Quinn, J. (2001). Learning needs of nurses working in Canada's first nations communities and hospitals. *The Journal of Continuing Education in Nursing*, 32(1), 38-45.

United States General Accounting Office. (2000). *Human capital: design, implementation, and evaluation of training at selected agencies* (GAO Publication No. GAO/T-GGD-00-131). Washington, DC: U.S. Government Printing Office.

Van Creveld, M. (1977). *Supplying war: logistics from Wallenstein to patton*. Cambridge, UK: Cambridge University Press. 1.

Walters, J. (1996). Medical support [Letter to the Editor]. *Joint Forces Quarterly*, Autumn, p. 7.

Appendix A

List of Questionnaire Subscales and Variable Coding

SECTION 1 (Demographic Information)

Question(s)	Subject	Variable Type	Coding
D1	Rank	Interval	2LT= 1, 1LT= 2, CPT= 3, MAJ= 4, LTC= 5, COL= 6
D2	Years of commissioned svc	Continuous	None
D3	Service component	Interval	AD= 1, RC= 2, ARNG= 3
D4	Medical logistics specialty	Interval	70k (MEDLOG)= 1, Facilities= 2, Log systems= 3, other= 4
D5a-c	Prior 70K assignments	Interval	D5a Duty position: MSO= 1, staff= 2, leadership= 3 D5b Unit level: Division= 1, Corps= 2, EAC= 3, TDA= 4 D5c Time in position : < 6 mos= 1, 7-12 mos= 2, > 12 mos = 3
D6a-c	Prior non-70K assignments	Interval	D6a Duty position: Leadership position= 1, staff= 2 D6b Unit Level: same as question 5 above D6c Time in position: same as question 5 above
D7	OIF 1 support location	Interval	CONUS= 1, OCONUS (not in theater)= 2,OCONUS (in theater)= 3, did not directly support OIF= 4
D8a-c	OIF 1 duty position		D8a Duty position: MSO= 1, staff= 2, leadership= 3 D8b Unit Level: same as question 5 above D8c Time in position: same as question 5 above
D9	Similarity of peace and wartime mission	Interval	not at all similar= 1, not very similar= 2, somewhat similar= 3, very similar= 4, extremely similar= 5
D10	Highest level of mil training	Interval	OBC= 1, OAC= 2, CAS3= 3, CGSC= 4, War College= 5
D11	Other MEDLOG training	Interval	70K course= 1, USAMMA= 2, facilities= 3, other=4, multiple courses= 5
D12	Date attended 70K course (at AMEDD C & S)	Interval	prior to 1980= 1, 1980-1985= 2, 1986-1990= 3, 1991-1995= 4, 1996-2000= 5, post 2000= 6

SECTION 2 (Institutional Training)

Question(s)	Subject	Variable Type	Coding
1-20	70K core competencies	Interval	5 point Likert Scale not at all effective= 1, not very effective= 2, somewhat effective= 3, very effective= 4, extremely effective= 5, Not Applicable= no value assigned

SECTION 3 (Operational Training)

Question(s)	Subject	Variable Type	Coding
21-30	Effectiveness of various training venues/ events	Interval	5 point Likert Scale not at all effective= 1, not very effective= 2, somewhat effective= 3, very effective= 4, extremely effective= 5, Not Applicable= no value assigned
31-35	Frequency of various training venues/ events	Interval	5 point Likert Scale Never=1 , Seldom= 2, Sometimes= 3, Often= 4, Always= 5, Not Applicable= no value assigned
36-38	Frequency of key MEDLOG tasks trained	Interval	5 point Likert Scale Never=1 , Seldom= 2, Sometimes= 3, Often= 4, Always= 5, Not Applicable= no value assigned

SECTION 4 (Self- development Training)

Question(s)	Subject	Variable Type	Coding
39-42	Effectiveness of self-development venues	Interval	5 point Likert Scale not at all effective= 1, not very effective= 2, somewhat effective= 3, very effective= 4, extremely effective= 5, Not Applicable= no value assigned
43	Frequency of self-development training	Interval	< 1 hr= 1, 1-2 hrs= 2, 3-4 hrs= 3, 5-6 hrs= 4, > 6 hrs= 5

SECTION 5 (Future Training)

Question(s)	Subject	Variable Type	Coding
44- 69	Value of additional training in 70K core competencies	Interval	5 point Likert Scale definitely not benefit= 1, probably not benefit= 2, unsure of benefit= 3, probably benefit= 4, definitely benefit= 5, Not Applicable= no value assigned
70	Additional training that would be of benefit not listed in 44-69 above	Free text	None
71	Additional comment on 70K training issues as related to OIF.	Free text	None

Appendix B

Questionnaire Cover Letter

DEPARTMENT OF THE ARMY
OFFICE OF THE SURGEON GENERAL
5109 LEESBURG PIKE
FALLS CHURCH VA 22041-3258

17 October 2003

Dear Fellow Medical Service Corps Officer,

In an effort to enhance the quality of our leader training and professional development programs, a current U.S. Army-Baylor Health Care Administration Resident, MAJ Jim Waddick, has developed a questionnaire designed to gather feedback and capture issues from medical logisticians (AOC 70K) regarding medical logistics training. Training, as we all know, is the cornerstone of readiness. Information on how you perceive the effectiveness of your prior medical logistics training experiences in preparing you to accomplish recent missions will assist the AMEDD in refining existing programs and developing new training strategies.

Attached is a questionnaire that has been sent to all active duty and select reserve component Army medical logistics officers. I am asking you to invest the 10 or so minutes that it will take to complete this questionnaire. The results from this process will provide valuable information that can be used to improve AMEDD medical logistics training.

Providing information on this questionnaire is voluntary. However, maximum participation is encouraged to ensure that data is complete as possible and reflects the opinions of the medical logistics officer community as a whole. Your responses will be treated as confidential and at no time will you be asked to personally identify yourself. Only group statistics will be reported in the findings from this process and any written comments you may provide will be transcribed from the questionnaire directly.

If returning via e-mail: Please send your completed questionnaire as an attachment to:

James.waddick@NA.amedd.army.mil

OR

If returning via U.S. mail: Please send your completed questionnaire in the enclosed envelope to:

MAJ Jim Waddick
215 Williamsburg Drive
Silver Spring, MD 20901

Thank you in advance for taking the time to complete this questionnaire, and thank you for your service to the nation as we fight to win the global war on terrorism.

Sheila R. Baxter
Brigadier General, U.S. Army
Assistant Surgeon General for
Force Sustainment

Appendix C

Medical Logistics Officers Training Questionnaire

Directions for Completing the Medical Logistics Officer's Training Questionnaire:

(1) Completion of this questionnaire is voluntary. All responses will remain confidential.

(2) The questionnaire consists of five pages and five sections. Please read each question carefully: there are 12 demographic questions (Section 1) and 71 training questions (Sections 2 through 5) that require a response.

(3) Decide your level of agreement with the area as it relates to your medical logistics training in the context of your experiences supporting Operation Iraqi Freedom (OIF).

(4) Indicate your answer by **typing an "X"** in the corresponding row that best describes how you feel based on your experience while supporting OIF 1 **OR,** if you did not directly support OIF, base your responses on your prior medical logistics training experiences.

(5) Please type in your response to questions that ask for your comments.

(6) One completed, please save the document and e-mail it as an attachment to:

James.Waddick@NA.amedd.army.mil

(7) If interested in receiving a copy of the results of the study please indicate so when returning the questionnaire by e-mail.

(8) Thank you in advance for taking the time to complete this questionnaire. Your feedback is valuable in determining future directions for medical logistics training.

SECTION 1: DEMOGRAPHIC INFORMATION

(This section contains questions on background information. Please type an "X" in the blank block corresponding to the best response or type in a text response if directed by the question).

Question Number	Rank	2LT (O1)	1LT (O2)	CPT (O3)	MAJ (O4)	LTC (O5)	COL (O6)
1							

Question Number			
2	Years in service	Enter number of years of commissioned service below (e.g. 2, 3, 4 . . . 20, etc.)	
3	Service component	Active Duty (AD)	Reserve (RC)	National Guard (ARNG)
4	Medical logistics specialty	Logistics (70K)	Facilities Management	Logistics Systems	Other (please type in)

Question Number				
5	Previous 70K assignments	Please type in (list) previous 70K duty positions you have held, the echelon level of the position, and the amount of time served in that position (do not include your OIF 1 duty position)		
		Duty Position (e.g. DMSO, BDE/ BN S4, CDR. . . etc.)	Unit echelon level (e.g. Div, Corps, Echelon above Corps, TDA. . . etc.)	Number of years/ months in position (e.g. 2 / 1)
6	Previous non-70K assignments	Please type in (list) previous non-70K duty positions you have held, the echelon level of the position, and the amount of time served in that position (do not include your OIF 1 duty position)		
		Duty Position (e.g. Plt Ldr, Co Cdr, . . etc.)	Unit echelon level (e.g. Div, Corps, Echelon above Corps, TDA. . . etc.)	Number of years / months in position (e.g. 2 / 1)

SECTION 1 (continued): DEMOGRAPHIC INFORMATION

7	From where did you support OIF?	CONUS	OCONUS Not in OIF theater	OCONUS In OIF theater	I Did not directly support OIF operations ***(skip questions 8 and 9)***

8	OIF duty position	Please type in the OIF duty position you held, the echelon level of the position, and the amount of time served in that position		
		Please type in OIF duty position/ title below (e.g. S4, Cdr, XO, etc.)	Unit echelon level (e.g. Div, Corps, Echelon above Corps, TDA. . . etc.)	Number of years / months in that position (e.g. 2 / 1)

9	How similar were your peacetime duties to your wartime mission?	Not at all similar	Not very similar	Somewhat similar	Very similar	Extremely similar

10	Highest level of institutional military training Completed	Officer Basic Course (OBC)	Officer Advanced Course (OAC)	Combined Arms Services Staff School (CAS3)	Command and General Staff College (CGSC)	Service War College

11	Other medical logistics training (Mark all that apply)	Medical Logistics Management Course (70K)	USAMMA Internship Program	Facilities Management	Other (Please type in)

12	When did you attend the 70K course	Enter the month and year of the start of the Medical Logistics Management (70K) Course you attended. (e.g. JAN /1995)	Not Applicable (I have not attended the Medical Logistics Management -70K- Course)

SECTION 2: INSTITUTIONAL TRAINING
This section encompasses your experiences from formal military training programs, e.g. OBC, OAC, Medical Logistics Management Course(s), etc.

Indicate your answer by typing an "X" in the corresponding row that best describes how you feel based on your experience.

Question Number	How effective was your training on _____ in preparing you to accomplish your medical logistics support mission?	Not at all effective	Not very effective	Somewhat effective	Very effective	Extremely effective	Not Applicable
1	Tactical medical logistics doctrine						
2	Strategic medical logistics doctrine						
3	Operational medical logistics doctrine						
4	Coordinating with multi-functional (i.e. FA 90) logisticians for medical supply distribution operations						
5	The operation of automated medical logistics information systems (e.g. TAMMIS, TCAM)						
6	Automated medical logistics information systems (e.g. TAMMIS, TCAM) communications connectivity						
7	Medical supply inventory management						
8	Medical supply chain management						
9	Warehouse operations						
10	Manual supply procedures						
11	Medical supply request in-transit visibility						

SECTION 2 (Continued) INSTITUIONAL TRAINING

Question Number	How effective was your training on _____ in preparing you to accomplish your medical logistics support mission?	Not at all effective	Not very effective	Somewhat effective	Very effective	Extremely effective	Not Applicable
12	Medical supply distribution management						
13	Integration of Pharmacists in medical logistics operations						
14	Medical maintenance and systems and procedures						
15	Cold chain item management						
16	Managing laboratory items						
17	Joint deployment formulary use						
18	Medical logistics planning and order writing						
19	Pre-configured medical resupply set development/ management						
20	Medical supply basic loads/ set management						

SECTION 3: OPERATIONAL TRAINING

This section encompasses your prior training experiences at the unit level (e.g. Combat Training Center rotations, field training exercises, operational deployments, daily garrison support operations, OPDs, unit-level mentoring programs, etc.)

Indicate your answer by typing an "X" in the corresponding row that best describes how you feel based on your experience.

Question Number	How effective were _____ in preparing you to accomplish your medical logistics support mission?	Not at all effective	Not very effective	Somewhat effective	Very effective	Extremely effective	Not Applicable
21	The provide medical logistics support tasks from unit Mission Training Plan (MTP/ ARTEP manual)						
22	Medical logistics external support tasks trained during Combat Training Center (i.e. NTC, JRTC, CMTC) rotations						
23	Medical logistics internal support tasks trained during Combat Training Center (i.e. NTC, JRTC, CMTC) rotations						
24	Medical logistics support tasks trained during unit External Evaluations (EXEVAL)						
25	Medical logistics tasks trained during internal unit training (e.g. FTXs, SGTs Time, other collective training)						
26	Medical logistics tasks trained during simulation exercises (SIMEXs)						
27	Automated medical logistics systems (e.g. TAMMIS, TCAM) training events						
28	Leader development programs (e.g. OPDs)						
29	Pre-deployment training						
30	Professional mentoring programs						
	How frequently did you/ your unit train medical logistics support tasks during the following events?	**Never**	**Seldom**	**Sometimes**	**Often**	**Always**	**Not Applicable**
31	Combat Training Center (CTC) rotations						
32	Unit External Evaluations (EXEVALs)						
33	Simulation exercises (SIMEXs)						
34	Internal unit training (FTXs, SGTs Time, etc.)						
35	Leader development training						

SECTION 3 (continued): OPERATIONAL TRAINING

	How frequently did you/ your unit execute the following medical logistics training events?	Never	Seldom	Sometimes	Often	Always	Not Applicable
36	Operating medical logistics automations systems (e.g. TAMMIS, TCAM)						
37	Establishing medical logistics automations systems connectivity						
	How frequently did you/ your unit execute the following medical logistics training events?	**Never**	**Seldom**	**Sometimes**	**Often**	**Always**	**Not Applicable**
38	Provide medical logistics support to customer units in a field environment						

SECTION 4: SELF-DEVELOPMENT TRAINING

This section encompasses your personal professional development experiences (e.g. medical logistics focused professional reading, civilian education opportunities, military conferences and seminars, professional organization membership activities, etc.

Indicate your answer by typing an "X" in the corresponding row that best describes how you feel based on your experience.

Question Number	How effective were _____ in preparing you to accomplish your medical logistics support mission?	Not at all effective	Not very effective	Somewhat effective	Very effective	Extremely effective	Not Applicable
39	Medical logistics focused professional reading programs						
40	Military conferences and seminars						
41	Civilian education programs / classes						
42	Profession organization (e.g. ACHE, AHRMM, etc.) membership activities						
43	**How many hours a week do you engage in medical logistics focused self-development activities?**	**0**	**< 1 hrs**	**1-2 hrs**	**3-4 hrs**	**5-6 hrs**	**> 6 hrs**

SECTION 5: FUTURE TRAINING

This section addresses additional training that you feel will help you accomplish future medical logistics missions and assist in your professional development.

Indicate your answer by typing an "X" in the corresponding row that best describes how you feel based on your experience.

Question Number	Would you benefit from additional training in the following areas?	Definitely not benefit	Probably not benefit	Unsure of benefit	Probably benefit	Definitely benefit	Not Applicable
44	Tactical medical logistics doctrine						
45	Strategic medical logistics doctrine						
46	Operational medical logistics doctrine						
47	Coordinating with multi-functional (i.e. FA 90) logisticians for medical supply distribution operations						
48	The operation of automated medical logistics information systems (e.g. TAMMIS, TCAM)						
49	Automated medical logistics information systems (e.g. TAMMIS, TCAM) communications connectivity						
50	Medical supply inventory management						
51	Medical supply chain management						
52	Warehouse operations						
53	Manual supply procedures						
54	Medical supply request in-transit visibility						
55	Medical supply distribution management						
56	Integration of Pharmacists in medical logistics operations						
57	Medical maintenance and systems and procedures						

SECTION 5 (continued): FUTURE TRAINING

Question Number	Would you benefit from additional training in the following areas?	Definitely not benefit	Probably not benefit	Unsure of benefit	Probably benefit	Definitely benefit	Not Applicable
58	Cold chain item management						
59	Managing laboratory items						
60	Joint deployment formulary development and use						
61	Medical logistics planning and order writing						
62	Pre-configured medical resupply set development/ management						
63	Medical supply basic loads/ set management						
64	More emphasis on exercising the medical logistics system during CTC rotations						
65	More emphasis on medical logistics support tasks during unit FTXs						
66	More emphasis on medical logistics tasks during unit leader training						
67	Professional mentoring						
68	Web based medical logistics professional development resources						
69	Information on medical logistics professional organizations						
70	Please type in any additional medical logistics training areas/ topics that you feel you would benefit from						
71	Please type in any additional comments you have on medical logistics training issues.						

END OF QUESTIONNAIRE- THANK YOU FOR YOUR PARTICIPATION

Appendix D

Descriptive Statistics and Frequencies

Descriptive Statistics (n= 149)

Questionnaire Item	N	Range	Minimum	Maximum	Mean	Std. Deviation
D1	149	4	2	6	3.78	.914
D2	147	26	2	28	13.19	5.948
D3	149	2	1	3	1.19	.441
D4	149	3	1	4	1.27	.777
D5a	145	2	1	3	1.74	.540
D5b	145	3	1	4	2.74	1.033
D5c	144	3	1	4	2.93	.386
D6a	136	2	1	3	1.32	.540
D6b	136	3	1	4	2.13	1.204
D6c	136	3	1	4	2.88	.446
D7	149	2	1	3	2.01	.900
D8a	148	3	1	4	2.08	.665
D8b	147	3	1	4	2.93	1.028
D8c	147	4	1	5	2.24	.847
D9	141	4	1	5	3.19	1.177
D10	148	4	1	5	3.16	.886
D11	145	5	1	6	2.59	1.669
1	147	4	1	5	3.23	.777
2	146	4	1	5	3.03	.989
3	144	4	1	5	3.24	.830
4	138	4	1	5	2.82	1.160
5	138	4	1	5	2.54	.960
6	133	4	1	5	2.38	1.091
7	145	3	2	5	3.53	.782
8	142	4	1	5	3.25	.941
9	141	4	1	5	3.35	.978
10	146	4	1	5	3.57	1.069
11	133	4	1	5	2.66	1.072
12	145	4	1	5	3.13	.884
13	136	4	1	5	2.35	1.058
14	143	4	1	5	2.88	.953
15	136	4	1	5	2.46	1.154
16	133	4	1	5	2.26	1.092
17	130	4	1	5	2.15	1.072
18	144	4	1	5	2.80	1.048
19	139	4	1	5	2.79	1.093
20	143	4	1	5	2.96	1.006
21	142	4	1	5	3.23	.878
22	113	4	1	5	3.34	1.005

Questionnaire Item	N	Range	Minimum	Maximum	Mean	Std. Deviation
23	113	4	1	5	3.43	.962
24	129	4	1	5	3.16	.950
25	139	4	1	5	3.32	.965
26	122	4	1	5	2.84	1.116
27	129	4	1	5	2.95	1.110
28	136	4	1	5	3.05	1.013
29	132	4	1	5	3.17	1.013
30	129	4	1	5	2.94	1.123
31	113	4	1	5	2.99	1.221
32	133	4	1	5	2.95	1.154
33	126	4	1	5	2.74	1.154
34	142	4	1	5	3.45	1.056
35	141	4	1	5	2.91	1.032
36	142	4	1	5	2.99	1.220
37	143	4	1	5	2.65	1.246
38	143	4	1	5	3.27	1.114
39	118	4	1	5	2.73	.931
40	136	4	1	5	3.49	.816
41	113	4	1	5	3.38	.957
42	93	4	1	5	2.88	1.196
43	144	4	1	5	2.33	1.205
44	145	4	1	5	4.18	.984
45	145	3	2	5	4.38	.755
46	145	3	2	5	4.43	.705
47	146	4	1	5	4.42	.795
48	143	3	2	5	4.62	.671
49	144	3	2	5	4.67	.678
50	144	4	1	5	4.02	.971
51	145	4	1	5	4.21	.859
52	144	4	1	5	3.83	1.080
53	145	4	1	5	3.63	1.183
54	145	3	2	5	4.41	.702
55	145	4	1	5	4.24	.827
56	145	4	1	5	4.06	.930
57	145	4	1	5	4.19	.923
58	146	4	1	5	4.19	.905
59	147	4	1	5	4.23	.836
60	147	4	1	5	4.22	.940
61	146	4	1	5	4.21	.904
62	144	4	1	5	4.14	1.035
63	143	4	1	5	4.15	.988
64	140	4	1	5	4.46	.843
65	141	4	1	5	4.47	.816
66	143	4	1	5	4.33	.862

Questionnaire Item	N	Range	Minimum	Maximum	Mean	Std. Deviation
67	146	4	1	5	4.40	.802
68	146	4	1	5	4.27	.857
69	145	4	1	5	4.00	.913
Valid N (listwise)	29					

Frequencies

D1

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	2	5	3.4	3.4	3.4
	3	61	40.9	40.9	44.3
	4	51	34.2	34.2	78.5
	5	26	17.4	17.4	96.0
	6	6	4.0	4.0	100.0
	Total	149	100.0	100.0	

D2

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	2	2	1.3	1.4	1.4
	3	3	2.0	2.0	3.4
	4	2	1.3	1.4	4.8
	5	2	1.3	1.4	6.1
	6	4	2.7	2.7	8.8
	7	12	8.1	8.2	17.0
	8	9	6.0	6.1	23.1
	9	7	4.7	4.8	27.9
	10	16	10.7	10.9	38.8
	11	9	6.0	6.1	44.9
	12	16	10.7	10.9	55.8
	13	11	7.4	7.5	63.3
	14	2	1.3	1.4	64.6
	15	5	3.4	3.4	68.0
	16	1	.7	.7	68.7
	17	10	6.7	6.8	75.5
	18	3	2.0	2.0	77.6
	19	4	2.7	2.7	80.3
	20	8	5.4	5.4	85.7
	21	5	3.4	3.4	89.1
	22	3	2.0	2.0	91.2
	23	5	3.4	3.4	94.6
	24	1	.7	.7	95.2
	25	3	2.0	2.0	97.3
	26	2	1.3	1.4	98.6
	27	1	.7	.7	99.3
	28	1	.7	.7	100.0
	Total	147	98.7	100.0	
Missing	System	2	1.3		
Total		149	100.0		

D3

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	124	83.2	83.2	83.2
	2	22	14.8	14.8	98.0
	3	3	2.0	2.0	100.0
	Total	149	100.0	100.0	

D4

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	130	87.2	87.2	87.2
	2	7	4.7	4.7	91.9
	3	3	2.0	2.0	94.0
	4	9	6.0	6.0	100.0
	Total	149	100.0	100.0	

D5a

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	45	30.2	31.0	31.0
	2	93	62.4	64.1	95.2
	3	7	4.7	4.8	100.0
	Total	145	97.3	100.0	
Missing	System	4	2.7		
Total		149	100.0		

D5b

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	15	10.1	10.3	10.3
	2	55	36.9	37.9	48.3
	3	27	18.1	18.6	66.9
	4	48	32.2	33.1	100.0
	Total	145	97.3	100.0	
Missing	System	4	2.7		
Total		149	100.0		

D5c

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	4	2.7	2.8	2.8
	2	4	2.7	2.8	5.6
	3	134	89.9	93.1	98.6
	4	2	1.3	1.4	100.0
	Total	144	96.6	100.0	
Missing	System	5	3.4		
Total		149	100.0		

D6a

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	98	65.8	72.1	72.1
	2	33	22.1	24.3	96.3
	3	5	3.4	3.7	100.0
	Total	136	91.3	100.0	
Missing	System	13	8.7		
Total		149	100.0		

D6b

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	59	39.6	43.4	43.4
	2	31	20.8	22.8	66.2
	3	15	10.1	11.0	77.2
	4	31	20.8	22.8	100.0
	Total	136	91.3	100.0	
Missing	System	13	8.7		
Total		149	100.0		

D6c

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	5	3.4	3.7	3.7
	2	8	5.4	5.9	9.6
	3	122	81.9	89.7	99.3
	4	1	.7	.7	100.0
	Total	136	91.3	100.0	
Missing	System	13	8.7		
Total		149	100.0		

D7

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	59	39.6	39.6	39.6
	2	29	19.5	19.5	59.1
	3	61	40.9	40.9	100.0
	Total	149	100.0	100.0	

D8a

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	24	16.1	16.2	16.2
	2	91	61.1	61.5	77.7
	3	30	20.1	20.3	98.0
	4	3	2.0	2.0	100.0
	Total	148	99.3	100.0	
Missing	System	1	.7		
Total		149	100.0		

D8b

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	14	9.4	9.5	9.5
	2	41	27.5	27.9	37.4
	3	34	22.8	23.1	60.5
	4	58	38.9	39.5	100.0
	Total	147	98.7	100.0	
Missing	System	2	1.3		
Total		149	100.0		

D8c

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	36	24.2	24.5	24.5
	2	42	28.2	28.6	53.1
	3	68	45.6	46.3	99.3
	5	1	.7	.7	100.0
	Total	147	98.7	100.0	
Missing	System	2	1.3		
Total		149	100.0		

D9

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	16	10.7	11.3	11.3
	2	19	12.8	13.5	24.8
	3	47	31.5	33.3	58.2
	4	40	26.8	28.4	86.5
	5	19	12.8	13.5	100.0
	Total	141	94.6	100.0	
Missing	System	8	5.4		
Total		149	100.0		

D10

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	8	5.4	5.4	5.4
	2	19	12.8	12.8	18.2
	3	68	45.6	45.9	64.2
	4	48	32.2	32.4	96.6
	5	5	3.4	3.4	100.0
	Total	148	99.3	100.0	
Missing	System	1	.7		
Total		149	100.0		

D11

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	73	49.0	50.3	50.3
	2	1	.7	.7	51.0
	3	3	2.0	2.1	53.1
	4	50	33.6	34.5	87.6
	5	16	10.7	11.0	98.6
	6	2	1.3	1.4	100.0
	Total	145	97.3	100.0	
Missing	System	4	2.7		
Total		149	100.0		

D12

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	4	2.7	2.8	2.8
	2	15	10.1	10.5	13.3
	3	25	16.8	17.5	30.8
	4	43	28.9	30.1	60.8
	5	46	30.9	32.2	93.0
	6	10	6.7	7.0	100.0
	Total	143	96.0	100.0	
Missing	System	6	4.0		
Total		149	100.0		

1

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	3	2.0	2.0	2.0
	2	16	10.7	10.9	12.9
	3	78	52.3	53.1	66.0
	4	44	29.5	29.9	95.9
	5	6	4.0	4.1	100.0
	Total	147	98.7	100.0	
Missing	System	2	1.3		
Total		149	100.0		

2

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	12	8.1	8.2	8.2
	2	26	17.4	17.8	26.0
	3	61	40.9	41.8	67.8
	4	40	26.8	27.4	95.2
	5	7	4.7	4.8	100.0
	Total	146	98.0	100.0	
Missing	System	3	2.0		
Total		149	100.0		

3

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	2	1.3	1.4	1.4
	2	22	14.8	15.3	16.7
	3	67	45.0	46.5	63.2
	4	45	30.2	31.3	94.4
	5	8	5.4	5.6	100.0
	Total	144	96.6	100.0	
Missing	System	5	3.4		
Total		149	100.0		

4

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	20	13.4	14.5	14.5
	2	35	23.5	25.4	39.9
	3	45	30.2	32.6	72.5
	4	26	17.4	18.8	91.3
	5	12	8.1	8.7	100.0
	Total	138	92.6	100.0	
Missing	System	11	7.4		
Total		149	100.0		

5

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	18	12.1	13.0	13.0
	2	51	34.2	37.0	50.0
	3	49	32.9	35.5	85.5
	4	16	10.7	11.6	97.1
	5	4	2.7	2.9	100.0
	Total	138	92.6	100.0	
Missing	System	11	7.4		
Total		149	100.0		

6

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	29	19.5	21.8	21.8
	2	52	34.9	39.1	60.9
	3	32	21.5	24.1	85.0
	4	13	8.7	9.8	94.7
	5	7	4.7	5.3	100.0
	Total	133	89.3	100.0	
Missing	System	16	10.7		
Total		149	100.0		

7

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	2	9	6.0	6.2	6.2
	3	67	45.0	46.2	52.4
	4	52	34.9	35.9	88.3
	5	17	11.4	11.7	100.0
	Total	145	97.3	100.0	
Missing	System	4	2.7		
Total		149	100.0		

8

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	3	2.0	2.1	2.1
	2	27	18.1	19.0	21.1
	3	56	37.6	39.4	60.6
	4	43	28.9	30.3	90.8
	5	13	8.7	9.2	100.0
	Total	142	95.3	100.0	
Missing	System	7	4.7		
Total		149	100.0		

9

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	6	4.0	4.3	4.3
	2	18	12.1	12.8	17.0
	3	53	35.6	37.6	54.6
	4	49	32.9	34.8	89.4
	5	15	10.1	10.6	100.0
	Total	141	94.6	100.0	
Missing	System	8	5.4		
Total		149	100.0		

10

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	7	4.7	4.8	4.8
	2	13	8.7	8.9	13.7
	3	47	31.5	32.2	45.9
	4	48	32.2	32.9	78.8
	5	31	20.8	21.2	100.0
	Total	146	98.0	100.0	
Missing	System	3	2.0		
Total		149	100.0		

11

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	21	14.1	15.8	15.8
	2	36	24.2	27.1	42.9
	3	50	33.6	37.6	80.5
	4	19	12.8	14.3	94.7
	5	7	4.7	5.3	100.0
	Total	133	89.3	100.0	
Missing	System	16	10.7		
Total		149	100.0		

12

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	5	3.4	3.4	3.4
	2	23	15.4	15.9	19.3
	3	75	50.3	51.7	71.0
	4	32	21.5	22.1	93.1
	5	10	6.7	6.9	100.0
	Total	145	97.3	100.0	
Missing	System	4	2.7		
Total		149	100.0		

13

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	30	20.1	22.1	22.1
	2	52	34.9	38.2	60.3
	3	36	24.2	26.5	86.8
	4	12	8.1	8.8	95.6
	5	6	4.0	4.4	100.0
	Total	136	91.3	100.0	
Missing	System	13	8.7		
Total		149	100.0		

14

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	12	8.1	8.4	8.4
	2	30	20.1	21.0	29.4
	3	72	48.3	50.3	79.7
	4	21	14.1	14.7	94.4
	5	8	5.4	5.6	100.0
	Total	143	96.0	100.0	
Missing	System	6	4.0		
Total		149	100.0		

15

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	34	22.8	25.0	25.0
	2	39	26.2	28.7	53.7
	3	36	24.2	26.5	80.1
	4	21	14.1	15.4	95.6
	5	6	4.0	4.4	100.0
	Total	136	91.3	100.0	
Missing	System	13	8.7		
Total		149	100.0		

16

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	39	26.2	29.3	29.3
	2	43	28.9	32.3	61.7
	3	34	22.8	25.6	87.2
	4	12	8.1	9.0	96.2
	5	5	3.4	3.8	100.0
	Total	133	89.3	100.0	
Missing	System	16	10.7		
Total		149	100.0		

17

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	43	28.9	33.1	33.1
	2	45	30.2	34.6	67.7
	3	25	16.8	19.2	86.9
	4	14	9.4	10.8	97.7
	5	3	2.0	2.3	100.0
	Total	130	87.2	100.0	
Missing	System	19	12.8		
Total		149	100.0		

18

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	20	13.4	13.9	13.9
	2	28	18.8	19.4	33.3
	3	65	43.6	45.1	78.5
	4	23	15.4	16.0	94.4
	5	8	5.4	5.6	100.0
	Total	144	96.6	100.0	
Missing	System	5	3.4		
Total		149	100.0		

19

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	15	10.1	10.8	10.8
	2	43	28.9	30.9	41.7
	3	49	32.9	35.3	77.0
	4	20	13.4	14.4	91.4
	5	12	8.1	8.6	100.0
	Total	139	93.3	100.0	
Missing	System	10	6.7		
Total		149	100.0		

20

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	12	8.1	8.4	8.4
	2	31	20.8	21.7	30.1
	3	59	39.6	41.3	71.3
	4	33	22.1	23.1	94.4
	5	8	5.4	5.6	100.0
	Total	143	96.0	100.0	
Missing	System	6	4.0		
Total		149	100.0		

21

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	3	2.0	2.1	2.1
	2	23	15.4	16.2	18.3
	3	65	43.6	45.8	64.1
	4	41	27.5	28.9	93.0
	5	10	6.7	7.0	100.0
	Total	142	95.3	100.0	
Missing	System	7	4.7		
Total		149	100.0		

22

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	4	2.7	3.5	3.5
	2	17	11.4	15.0	18.6
	3	44	29.5	38.9	57.5
	4	33	22.1	29.2	86.7
	5	15	10.1	13.3	100.0
	Total	113	75.8	100.0	
Missing	System	36	24.2		
Total		149	100.0		

23

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	3	2.0	2.7	2.7
	2	13	8.7	11.5	14.2
	3	45	30.2	39.8	54.0
	4	36	24.2	31.9	85.8
	5	16	10.7	14.2	100.0
	Total	113	75.8	100.0	
Missing	System	36	24.2		
Total		149	100.0		

24

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	5	3.4	3.9	3.9
	2	24	16.1	18.6	22.5
	3	55	36.9	42.6	65.1
	4	35	23.5	27.1	92.2
	5	10	6.7	7.8	100.0
	Total	129	86.6	100.0	
Missing	System	20	13.4		
Total		149	100.0		

25

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	6	4.0	4.3	4.3
	2	18	12.1	12.9	17.3
	3	53	35.6	38.1	55.4
	4	49	32.9	35.3	90.6
	5	13	8.7	9.4	100.0
	Total	139	93.3	100.0	
Missing	System	10	6.7		
Total		149	100.0		

26

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	15	10.1	12.3	12.3
	2	34	22.8	27.9	40.2
	3	37	24.8	30.3	70.5
	4	28	18.8	23.0	93.4
	5	8	5.4	6.6	100.0
	Total	122	81.9	100.0	
Missing	System	27	18.1		
Total		149	100.0		

27

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	14	9.4	10.9	10.9
	2	27	18.1	20.9	31.8
	3	52	34.9	40.3	72.1
	4	23	15.4	17.8	89.9
	5	13	8.7	10.1	100.0
	Total	129	86.6	100.0	
Missing	System	20	13.4		
Total		149	100.0		

28

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	10	6.7	7.4	7.4
	2	27	18.1	19.9	27.2
	3	54	36.2	39.7	66.9
	4	36	24.2	26.5	93.4
	5	9	6.0	6.6	100.0
	Total	136	91.3	100.0	
Missing	System	13	8.7		
Total		149	100.0		

29

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	5	3.4	3.8	3.8
	2	31	20.8	23.5	27.3
	3	45	30.2	34.1	61.4
	4	39	26.2	29.5	90.9
	5	12	8.1	9.1	100.0
	Total	132	88.6	100.0	
Missing	System	17	11.4		
Total		149	100.0		

30

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	12	8.1	9.3	9.3
	2	35	23.5	27.1	36.4
	3	45	30.2	34.9	71.3
	4	23	15.4	17.8	89.1
	5	14	9.4	10.9	100.0
	Total	129	86.6	100.0	
Missing	System	20	13.4		
Total		149	100.0		

31

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	16	10.7	14.2	14.2
	2	23	15.4	20.4	34.5
	3	33	22.1	29.2	63.7
	4	28	18.8	24.8	88.5
	5	13	8.7	11.5	100.0
	Total	113	75.8	100.0	
Missing	System	36	24.2		
Total		149	100.0		

32

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	13	8.7	9.8	9.8
	2	38	25.5	28.6	38.3
	3	38	25.5	28.6	66.9
	4	30	20.1	22.6	89.5
	5	14	9.4	10.5	100.0
	Total	133	89.3	100.0	
Missing	System	16	10.7		
Total		149	100.0		

33

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	19	12.8	15.1	15.1
	2	37	24.8	29.4	44.4
	3	38	25.5	30.2	74.6
	4	22	14.8	17.5	92.1
	5	10	6.7	7.9	100.0
	Total	126	84.6	100.0	
Missing	System	23	15.4		
Total		149	100.0		

34

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	4	2.7	2.8	2.8
	2	24	16.1	16.9	19.7
	3	43	28.9	30.3	50.0
	4	46	30.9	32.4	82.4
	5	25	16.8	17.6	100.0
	Total	142	95.3	100.0	
Missing	System	7	4.7		
Total		149	100.0		

35

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	9	6.0	6.4	6.4
	2	44	29.5	31.2	37.6
	3	48	32.2	34.0	71.6
	4	30	20.1	21.3	92.9
	5	10	6.7	7.1	100.0
	Total	141	94.6	100.0	
Missing	System	8	5.4		
Total		149	100.0		

36

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	16	10.7	11.3	11.3
	2	38	25.5	26.8	38.0
	3	40	26.8	28.2	66.2
	4	28	18.8	19.7	85.9
	5	20	13.4	14.1	100.0
	Total	142	95.3	100.0	
Missing	System	7	4.7		
Total		149	100.0		

37

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	28	18.8	19.6	19.6
	2	45	30.2	31.5	51.0
	3	34	22.8	23.8	74.8
	4	21	14.1	14.7	89.5
	5	15	10.1	10.5	100.0
	Total	143	96.0	100.0	
Missing	System	6	4.0		
Total		149	100.0		

38

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	5	3.4	3.5	3.5
	2	36	24.2	25.2	28.7
	3	40	26.8	28.0	56.6
	4	39	26.2	27.3	83.9
	5	23	15.4	16.1	100.0
	Total	143	96.0	100.0	
Missing	System	6	4.0		
Total		149	100.0		

39

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	12	8.1	10.2	10.2
	2	31	20.8	26.3	36.4
	3	56	37.6	47.5	83.9
	4	15	10.1	12.7	96.6
	5	4	2.7	3.4	100.0
	Total	118	79.2	100.0	
Missing	System	31	20.8		
Total		149	100.0		

40

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	1	.7	.7	.7
	2	9	6.0	6.6	7.4
	3	65	43.6	47.8	55.1
	4	45	30.2	33.1	88.2
	5	16	10.7	11.8	100.0
	Total	136	91.3	100.0	
Missing	System	13	8.7		
Total		149	100.0		

41

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	2	1.3	1.8	1.8
	2	18	12.1	15.9	17.7
	3	42	28.2	37.2	54.9
	4	37	24.8	32.7	87.6
	5	14	9.4	12.4	100.0
	Total	113	75.8	100.0	
Missing	System	36	24.2		
Total		149	100.0		

42

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	12	8.1	12.9	12.9
	2	25	16.8	26.9	39.8
	3	29	19.5	31.2	71.0
	4	16	10.7	17.2	88.2
	5	11	7.4	11.8	100.0
	Total	93	62.4	100.0	
Missing	System	56	37.6		
Total		149	100.0		

43

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	40	26.8	27.8	27.8
	2	51	34.2	35.4	63.2
	3	33	22.1	22.9	86.1
	4	6	4.0	4.2	90.3
	5	14	9.4	9.7	100.0
	Total	144	96.6	100.0	
Missing	System	5	3.4		
Total		149	100.0		

44

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	4	2.7	2.8	2.8
	2	10	6.7	6.9	9.7
	3	5	3.4	3.4	13.1
	4	63	42.3	43.4	56.6
	5	63	42.3	43.4	100.0
	Total	145	97.3	100.0	
Missing	System	4	2.7		
Total		149	100.0		

45

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	2	5	3.4	3.4	3.4
	3	9	6.0	6.2	9.7
	4	57	38.3	39.3	49.0
	5	74	49.7	51.0	100.0
	Total	145	97.3	100.0	
Missing	System	4	2.7		
Total		149	100.0		

46

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	2	3	2.0	2.1	2.1
	3	9	6.0	6.2	8.3
	4	55	36.9	37.9	46.2
	5	78	52.3	53.8	100.0
	Total	145	97.3	100.0	
Missing	System	4	2.7		
Total		149	100.0		

47

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	1	.7	.7	.7
	2	4	2.7	2.7	3.4
	3	10	6.7	6.8	10.3
	4	48	32.2	32.9	43.2
	5	83	55.7	56.8	100.0
	Total	146	98.0	100.0	
Missing	System	3	2.0		
Total		149	100.0		

48

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	2	3	2.0	2.1	2.1
	3	6	4.0	4.2	6.3
	4	34	22.8	23.8	30.1
	5	100	67.1	69.9	100.0
	Total	143	96.0	100.0	
Missing	System	6	4.0		
Total		149	100.0		

49

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	2	3	2.0	2.1	2.1
	3	8	5.4	5.6	7.6
	4	22	14.8	15.3	22.9
	5	111	74.5	77.1	100.0
	Total	144	96.6	100.0	
Missing	System	5	3.4		
Total		149	100.0		

50

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	2	1.3	1.4	1.4
	2	12	8.1	8.3	9.7
	3	18	12.1	12.5	22.2
	4	61	40.9	42.4	64.6
	5	51	34.2	35.4	100.0
	Total	144	96.6	100.0	
Missing	System	5	3.4		
Total		149	100.0		

51

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	2	1.3	1.4	1.4
	2	5	3.4	3.4	4.8
	3	14	9.4	9.7	14.5
	4	63	42.3	43.4	57.9
	5	61	40.9	42.1	100.0
	Total	145	97.3	100.0	
Missing	System	4	2.7		
Total		149	100.0		

52

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	5	3.4	3.5	3.5
	2	15	10.1	10.4	13.9
	3	23	15.4	16.0	29.9
	4	58	38.9	40.3	70.1
	5	43	28.9	29.9	100.0
	Total	144	96.6	100.0	
Missing	System	5	3.4		
Total		149	100.0		

53

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	7	4.7	4.8	4.8
	2	25	16.8	17.2	22.1
	3	20	13.4	13.8	35.9
	4	55	36.9	37.9	73.8
	5	38	25.5	26.2	100.0
	Total	145	97.3	100.0	
Missing	System	4	2.7		
Total		149	100.0		

54

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	2	2	1.3	1.4	1.4
	3	12	8.1	8.3	9.7
	4	56	37.6	38.6	48.3
	5	75	50.3	51.7	100.0
	Total	145	97.3	100.0	
Missing	System	4	2.7		
Total		149	100.0		

55

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	1	.7	.7	.7
	2	4	2.7	2.8	3.4
	3	18	12.1	12.4	15.9
	4	58	38.9	40.0	55.9
	5	64	43.0	44.1	100.0
	Total	145	97.3	100.0	
Missing	System	4	2.7		
Total		149	100.0		

56

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	2	1.3	1.4	1.4
	2	8	5.4	5.5	6.9
	3	22	14.8	15.2	22.1
	4	60	40.3	41.4	63.4
	5	53	35.6	36.6	100.0
	Total	145	97.3	100.0	
Missing	System	4	2.7		
Total		149	100.0		

57

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	2	1.3	1.4	1.4
	2	9	6.0	6.2	7.6
	3	11	7.4	7.6	15.2
	4	60	40.3	41.4	56.6
	5	63	42.3	43.4	100.0
	Total	145	97.3	100.0	
Missing	System	4	2.7		
Total		149	100.0		

58

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	2	1.3	1.4	1.4
	2	6	4.0	4.1	5.5
	3	18	12.1	12.3	17.8
	4	56	37.6	38.4	56.2
	5	64	43.0	43.8	100.0
	Total	146	98.0	100.0	
Missing	System	3	2.0		
Total		149	100.0		

59

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	1	.7	.7	.7
	2	5	3.4	3.4	4.1
	3	17	11.4	11.6	15.6
	4	60	40.3	40.8	56.5
	5	64	43.0	43.5	100.0
	Total	147	98.7	100.0	
Missing	System	2	1.3		
Total		149	100.0		

60

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	1	.7	.7	.7
	2	9	6.0	6.1	6.8
	3	19	12.8	12.9	19.7
	4	46	30.9	31.3	51.0
	5	72	48.3	49.0	100.0
	Total	147	98.7	100.0	
Missing	System	2	1.3		
Total		149	100.0		

61

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	2	1.3	1.4	1.4
	2	6	4.0	4.1	5.5
	3	17	11.4	11.6	17.1
	4	55	36.9	37.7	54.8
	5	66	44.3	45.2	100.0
	Total	146	98.0	100.0	
Missing	System	3	2.0		
Total		149	100.0		

62

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	4	2.7	2.8	2.8
	2	11	7.4	7.6	10.4
	3	11	7.4	7.6	18.1
	4	53	35.6	36.8	54.9
	5	65	43.6	45.1	100.0
	Total	144	96.6	100.0	
Missing	System	5	3.4		
Total		149	100.0		

63

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	4	2.7	2.8	2.8
	2	8	5.4	5.6	8.4
	3	12	8.1	8.4	16.8
	4	57	38.3	39.9	56.6
	5	62	41.6	43.4	100.0
	Total	143	96.0	100.0	
Missing	System	6	4.0		
Total		149	100.0		

64

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	3	2.0	2.1	2.1
	2	3	2.0	2.1	4.3
	3	5	3.4	3.6	7.9
	4	45	30.2	32.1	40.0
	5	84	56.4	60.0	100.0
	Total	140	94.0	100.0	
Missing	System	9	6.0		
Total		149	100.0		

65

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	3	2.0	2.1	2.1
	2	3	2.0	2.1	4.3
	3	2	1.3	1.4	5.7
	4	50	33.6	35.5	41.1
	5	83	55.7	58.9	100.0
	Total	141	94.6	100.0	
Missing	System	8	5.4		
Total		149	100.0		

66

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	2	1.3	1.4	1.4
	2	6	4.0	4.2	5.6
	3	7	4.7	4.9	10.5
	4	56	37.6	39.2	49.7
	5	72	48.3	50.3	100.0
	Total	143	96.0	100.0	
Missing	System	6	4.0		
Total		149	100.0		

67

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	2	1.3	1.4	1.4
	2	3	2.0	2.1	3.4
	3	8	5.4	5.5	8.9
	4	54	36.2	37.0	45.9
	5	79	53.0	54.1	100.0
	Total	146	98.0	100.0	
Missing	System	3	2.0		
Total		149	100.0		

68

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	1	.7	.7	.7
	2	4	2.7	2.7	3.4
	3	21	14.1	14.4	17.8
	4	49	32.9	33.6	51.4
	5	71	47.7	48.6	100.0
	Total	146	98.0	100.0	
Missing	System	3	2.0		
Total		149	100.0		

69

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	2	1.3	1.4	1.4
	2	5	3.4	3.4	4.8
	3	33	22.1	22.8	27.6
	4	56	37.6	38.6	66.2
	5	49	32.9	33.8	100.0
	Total	145	97.3	100.0	
Missing	System	4	2.7		
Total		149	100.0		

Appendix E

Sample Written Responses to Questionnaire Items # 70 and 71.

Note: these comments have been transcribed exactly as they appeared on the returned questionnaire. To facilitate ease of use, they have been organized in table format.

Question 70	
"Please type in any additional medical logistics training areas/ topics that you feel you would benefit from…"	
Record #	**Response**
12	Update information in medical logistic. More opportunities to go to schools, professional programs, conferences and seminars.
40	Technology, Information systems
42	Hazardous Materiel Handling, Warehouse operations
50	70Ks do an excellent job on training each other. The weak links are leaders who don't care to understand the constraints, challenges, and expense of medical logistics and push for benefits beyond what the med log system is designed to deliver and support. Similarly, I have benefited greatly from 70K training on integrating with healthcare professionals, but this type of training is completely lacking from the healthcare side. Both sides need to work together for success. It is of little use for me to have additional methods and tools to support lab operations, for example, if the lab personnel do not want to work within these methods and tools.
57	More training on systems/connectivity. Working in the Coalition Environment Pay for AHRMM certification and provide training. More training on FEDLOGPT.com..More information from OTSG-LOG on requirements/opportunities, smart business practices. We need more realistic training learned from OIF.
58	Joint Course on Logistics (Integration of Operational/Strategic Linkages).
60	1. Medical Chemical Defense Materiels (MCDM) and Weapons of Mass Destruction 2. Logistical Information Management ie. CAD, CALS, ECAT, LIDS, DMLSS, TCAM, M3PT, MODS, AMEDDPAS, ULLS-S4, ULLS-G, SPBS etc. 3. Automated Logistical Systems (Point of Pull and Robotic Pharmacy Systems, Bar Coding and Optical Readers, Networking Hardware etc.) 4. Commercial Medical Logistics (Industry trends) 5. Stockless Inventory Initiatives (Prime Vendor Contracts, VMI, GPOs etc.) 6. Contracting Initiatives in the AMEDD 7. Medical Logistics Support during Disaster Relief Efforts (Home Land Defense) 8. Army Pre-positioned War Stocks 9. Medical Logistics Support for Special Operation Forces or Unconventional Warfare 10. Medical Logistics Support for Humanitarian Relief Efforts in Third World Countries 11. Advanced Medical Facilities Management Practices 12. Clinical Engineering (Health Care Facilities Engineering) 13. Biomedical Engineering(Medical Equipment Engineering and Maintenance) 14. Medical Logistics Support for Medical Research and Development 15. Future Trends in Medical Logistics / Biotechnologies 16. New Doctrine in Managing Blood and Blood By-Product Supplies (CL VIIIB) 17. Logistical Support for Optical Care and Fabrication (TOE and TDA) 18. Logistical Support for Dental Care Operations (TOE and TDA) 19. Logistical Support for Veterinarian Care Operations (TOE and TDA) 20. MRI (Medical Reengineering Initiative) – How are Medical Logistics Operations Changing to Meet the Demands of the Army of the Future (TOE and TDA units). 21. VA Medical Logistics Practices 22. The U.S. Army Quarter Master Branch 23. The U.S. Army Transportation Branch 24. Medical Logistics Support when Deploying the U.S. Army Reserves and National Guard 25. The Purple Medical Corps. How will Medical Logisticians be Affected? 26. Medical Product Standardization Practices 28. TRICARE and Medical Logistics 29. Civilian EMS / Fire and Rescue Medical Logistics 30. Predictive Logistics and Customer Support Initiatives
61	JCAHO training, Life Safety Code training, acquisition training, project management training, financial management training, COR, ACOR, TCOR, construction management
62	Despite a lengthy "logistics resume", my jobs never really allowed me the chance to use TAMMIS/TCAM much until 10 years after I completed the Med Log Mgt Course, during OIF. Therefore most of my formal medlog training had either atrophied or become obsolete. The only

	TCAM training I received was approx 2 months prior to deployment and it basically just taught me to load and use the catalog. Therefore I would benefit from any training from basic inventory mgt to advanced TAMMIS ops.
64	My only external professional development as a kilo offered in over 3 years in the 1AD came from conferences sponsored by USAMMCE or the AMEDD. I attended the kilo course straight from OBC, before I had any frame of reference of combat health support of a Division, which I do not recommend as a course of action, for future reference. In the 1AD MSMC, medlog was never trained on outside of the DMSO, though I deployed the warehouse twice in support of CMTC rotations. Emphasis/Evaluation of medlog at all echelons in Division would probably result in better accountability and visibility of division assets, especially with the introduction of TCAM. I recommend supplementing OBC, OAC, and CLC3 with more on the subject.
65	Professional Mentorship: I think I have received an abundance of training. I would like to see more of a professional MEDLOG mentoring program geared at our senior leaders giving/assisting junior/company officers in plans, operations, assignment selection, and career guidance. The senior leadership has many years of experience that can be given to the junior officers. Automation Training: as officers assigned to specific TOE units, we do not get a lot of hands on training with TAMMIS, CASS-M, and TCAM
66	Hands on experiences and OJT programs, Rotational and continuous programs.
70	The defense transportation system. There is no formal training to teach logisticians the Defense Transportation System, but during time of war we are extremely dependent on it. I see this as a huge benefit for our personnel.
72	Training must be current – if I attended the 70K course in 1993 but didn't work in a medical supply account or use logistics automation systems then I wouldn't remember the material. For example, I attended the Property Book Course in 1995, and then worked as a PBO when I was a Bn S-4 but I haven't touched that system since so I am not current anymore.
76	There needs to be a better way of providing more information opportunities to Med Log officers about what is happening in the community – in terms of developments, ideas & challenges for the TOE & TDA arenas. TCAM, Tri-Care Standardization, SIMLIM innovations are some example
77	Not all 70K get to work 70K jobs, there needs to be continued education set up. To keep us up on the latest and greatest ways of doing business.
80	Acquisition training and TDA medical logistics are crucial to the development of all 70K's.
	School house procedures are too archaic and slow to effectively change to meet training requirements, particularly as it relates to systems
81	Acquisition and Contraction
87	We need to learn how to identify resources and assist customers in building and sticking with effective formularies. The canned formularies don't apply in certain situations and the 70K must learn to play midwife to the customer unit's development of an applicable formulary for their situation. What resources, knowledge, contacts within the customer units etc. must the 70K have to assist in effective formulary development and then the subsequent ASL development of the CLVIII account?
90	A web based medical logistics resource as professional as Acquisition 101 on the Defense Acquisition University would be a definite benefit to all medical logisticians. It must be of that high caliber otherwise it would be a waste. However, this course should part of a 70K career development program, not just a good idea to do. Perhaps incorporated into a career track within the AMEDD OAC or Phase II for CLOAC students. A strategic medical logistics course (1-2 weeks long) for field grade (incl CPT(P)) that discusses doctrine, concepts, organizations, planning, estimating, briefings, current issues, case studies could be very beneficial. The course should involve briefings from or a visit to Transportation Command as well as Air Force and Navy Medical logistics systems. It should be joint and focused on warfighting, but also have input from civilian medical logistics resources.
93	A Medical Logistics class update.
94	Junior 70Ks need to manage accounts. Junion 91Js need to manage supplies. If we're not doing these tasks, nothing else matters. The window of opportunity to train these two target audiences is limited. One way to accomplish this is to require untilization tours immediately following 70K course. Another way, is to develop an accrediting program internally, similar to a "Medical Logsitics Society" e.g. must profess knowledge in medical logististics, attend training, pass test, to be a member of the society.
96	Environmental Services (RMW, HAZMAT) Facilities Management (Facility Design process, EAs, Repair and Maint)
98	I cannot stress the need for better/increased logistics communications interconnectivity training at all levels of our MEDLOG organizations. This requirement is second only to additional TAMMIS management and operator training requirements.
99	The 21st century medical logistician must be able to operate in a joint environment. Also must have more than basic knowledge on Acquisition. These included program management, acquisition life cycle support, contracting and simplified procurement. Our Armed Forces operate with the assistance of the defense industry. This entails the medical logistician to be able to understand and execute the mission with contractors and DOD employees.
100	Single stock fund management training would be helpful.
104	Why not ask about the break down by training level of the topics above. At some point most Loggies will need to know something about all the above topics but the current system does a poor job of

	preparing you for your current level of responisibility and next level up. For an example a LT should be trained heavily in the tasks that a LT and jr CPT would be expected to preform. Then when you return for the advanced course you should receive training in the task a Sr Cpt and jr Maj would need.
105	Circulars would be beneficial. An interactive system on the internet would benefit as well. Logisticians are successful based on their ability to "Network". It really does not matter if you are a regular logistician, or a medical logistician, the mission is the same. If a agency within our Army system were to develop a circular and interactive web-based site for logisticians to communicate with one another, this would be a benefit. Personally, I feel that experience is an excellent teacher, so a mentorship program would also benefit.
109	Continues Automated systems training would be beneficial, as well as updates on how to use all of the Army supply catalogs (MEDCAT, FEDLOG, etc.)
110	Penn State's Supply Chain Management series.
114	I entered the theater as a relatively new logistician with limited experience and high expectations for the logistic system to function as it was taught in 70k school. However, the system was truly broke. TAMMIS and TCAM were not in use and there was essentially no standard method or reasonable plans in place to move needed supplies down-range. I was commended for my ability to get supplies where they were needed. I was thrust into a highly visible position as the Rear DSCLOG for 3D MEDCOM. With little preparation or guidance I was tasked to write the Health Service Logistics Plan for the entire theater. I wrote it based on operational doctrine gleamed from logistic manuals and ARTEP. Finally, 3D MEDCOM realized that they couldn't direct all the company level units and support them without a battalion. They established 3D ASMB to support 12 seperate medical companies that included veternarians, ambuluance and medical companies. I was tasked as the BN S4 to ensure these units received proper RSOI, medical resupply, and vehicle maintenance. Many of the units arrived in country without the recommend 15 DOS for medical items. Most of the units didn't even have a supply officer or NCO instead they tasked a medic or XO with the additional duty of medical supply. Some units were split into 2 or more detachments so entire medical sets had to be acquired to allow them to become operational. My entire staff consisted of myself and one NCO to handle 12 units that often ill-equipped to handle basic logistic missions. I quickly learned that we had to do something more than just send Logistic reports and powerpoint presentations to 3D MEDCOM. We personally handled requisitions of medical supplies for our down-trace units. Most of these requisitions involved dealing one-on-one with warehouse managers or a basic 3161. TCAM did not become operational until about April 03. In fact, for the first 4 months in theater the only medical warehouse was located in Qatar operated by a skeleton crew working night and day to fill orders. The pallets of supplies were always being bumped by a higher priority load making resupply very difficult. Once I received the supplies they had to immediately be transported since there was no alloted storage in Kuwait. The promised Logistics Train never materialized and ambulance back-fill was out of the question due to the size of most tri-folds. I ran convoys on a weekly basis to ensure supplies were delivered and I coordinated with the Kuwait Air Force to airlift supplies three times a week to the northern camps in the Udairi Range Complex. Of course, many of these problems were rectified once the medical supply warehouse was established in Kuwait and TCAM went online but for the first 4-5 months of my deployment everyday was an emergency. To be honest, I had a hell of a time but this is not the way the logistics system is supposed to function. No real-time requisition system and literally no dedicated transportation assets is not a way to support the fighting force. Everyday brought a new emergency that could have been prevented by improved planning and better resources. Sorry, about my lengthy answer. I hope it helps us do better in the future. I must admit I have learned a great deal and I truly enjoyed working so hard to support my units.
115	Joint service training, communication linkage, commonization of medical items, joint visibility of medical items and coordination to provide medical support to all services.
116	Medical Logisticians need to know and understand both contracting and resource management as it applies to the AMEDD and DOD. Training in these areas are a must.
122	Creation of an environment where you train in garrison as you fight in war. Requisitions in garrison should replicate procedures and platforms used in combat.
124	Hands on training. See all aspects of medical logistics and standard logistics. Thing are constantly changing and reeducation is not offered.
125	Teach the leaders how automation works and hands-on with 91J to ensure full understanding of the process from ordering to receiving and distribution.
126	Procurement and Contracting
130	Training: Full Spectrum Medical Logistics Support on the Digitized Battlefield from Vendor to Warrior. More positions for RC officers at USAMMA Course Topic: Reengineering medical equipment set management, storage, and maintenance within the RC. RC Logistics Liaison Officer needed full time at Regional Medical Command level to inspect and coordinate RC medical logistics issues.
131	Technology, Information systems
137	Medical Logistics in Joint Spec Ops
138	Classroom and web training is okay but practical experience is where we learn the Art of Medical Logistics. If any idiot could do MEDLOG, we would use QM officers, NCOs, and soldiers (but at least they know the business processes and systems that manage their business … our folks do not because they rely upon GS/Contract workers in the TDA and PV to do the work.

139	Role/Expectations of a PPP in support of deployment Sources/Enablers available to Logisticians in/out of MEDCOM
140	Facilities Management; outsourcing acquisition/contracting issues; controlled substances; Property Management; HAZMAT; FDA, EPA CDC, & CFR regulations
141	WOULD LIKE TO SEE MORE TRAINING AVAILABLE ON LOGISTICS READINESS FROM BOTH TOE & TDA PERSPECTIVE. EXPERIENCED A LOT OF "HANDS ON" DURING OEF/OIF 1 SUPPORT AT LRMC PAST 18 MONTHS. NEED TO FOCUS MORE ON READINESS.
142	Prime Vendor Contracting/cContracts; Facilities Management
145	Ethics - recommend a block of instruction for 70K to specifically identify their role in ensuring only legitimate purchases are made and that supplies ultimately reach the intended recipient without pilferage. Instruction should discuss the temptations and possible pressure to bend the rules the logistician may experience once they reach the workplace. This training could be packaged in a manner for the officer to provide the training to their organization once they arrive and could include suggested tools available to leaders to identify and terminate unethical behavior in the logistics system. Course should express the potential severe impact of pilferage on the medical providers and patients.
146	Commercial practice and FA 90 initiatives and how they relate to current and future Med Log practices and initiatives
148	Joint Interoperability Missions (both hostile and non-hostile operations). Also more OPDs on lessons learned from past major operations. We need to collectively share our experiences to avoid repeating the same mistakes and identify the shortfalls to improve medical logistics operations in the future.
151	We need more database design training for officers. Officers need to know more about TAMMIS database structure to understand what it is doing. Also, need more supply chain management training as opposed to "logistics execution" training. We are managers, but fail to manage because we do not know or understand the system. My personal observation is that we train S4s, not medical logisticians and they are not the same.
152	Facilities management, HAZMAT management, medical maintenance management, and the entire TDA aspect of logistics to include Environment of Care and environmental. Possibly management tools for each as well.
154	- Refresher training courses for Med Logistics at Fort Sam Houston - Update Circulars or Newsletters on programs and med material mgmt procedures - Warehouse Management and/or automation updates - 2 week training programs at USAMMA or USAMMCE for reservists - AARs / Lessons learned from 70K soldiers / Med Log Units from OIF 1 and OEF - Training program circular or email update to inform 70K officers of available programs/training to maintain proficiency and awareness of Med Supply Ops
155	How APS is stored and 'maintained'? How reserve Med Log components function? How to better assist clinicians appoint a medical supply soldier?
156	Medical Facility Management / Capital Planning
157	AUTOMATION CONNECTIVITY USING LATEST TECHNOLOGIES (IRIDIUM PHONES, INMARSAT, TELEMEDICINE)
158	It is not that we don't practice logistics skills during field training exercises and CMTC opportunities; the problem is that the play is unrealistically low. The major problem is that shy of an assignment to USAMMCE or the 16th MEDLOG BN there isn't any place left for our soldier's, NCOs and Officer's to sustain their skills. It is time that we put our soldier's back in medical logistics jobs that enhance their logistical skills and come up with way's to backfill those jobs when the soldier's deploy. We do not do in peace time what we do in war therefore it should not come as a shock to anyone when our skills are rusty or have to be learned during combat operations.
162	Online training, scenarios based off current combat operations and med support missions involving med logistics. It could be at each level, i.e. company, battalion, brigade, division. This would allow K's to stay current with modern methods and technologies, as well refresh and teach, through combat scenarios that actually happened, keeping us on the cutting edge.
163	A major issue during OIF 1 was CLASS VIII distribution. The AMEDD does not own the transportation assets and it was difficult getting assets to move CLASS VIII. Med Log Officers need to be assigned to the TSC's DMC to facilitate Class VIII distribution.
165	Less focus needs to be placed on warehouse operations, supply procedures, and inventory management. All these areas can be learned quickly from OJT from the NCO corps. More focus needs to be placed on responsiveness….using various sources of supply other than IMSA.
166	Refresher training…a short course that would refresh the 70K who may venture out of the MEDLOG community for a couple of years. The 70K course covered more TDA information that TOE, and was not helpful for the position that I held, or my next assignment.
170	Attendance to Facility Management course. Participation in ACHE/AHRMM conferences.
176	Need to increase systems training courses & REQUIRE all military to attend Inv Mgmt TNG prior to being assigned to any job requiring that skill set. Transportation ITV

178	My MEDLOG time is limited to USAMMCE only. I'm not sure how much I could benefit from additional logistics training
187	We need to focus on Med Logistics forward of the Corps area. We have not followed any of the doctrine in OIF. Med Logistics on a non-linear battlefield is totally different. I am closer to the MED LOG Bn than the DMSO, yet some insist that I still go through the DMSO which is 3 hours away versus 45 minutes. Also all of the meeting I've ever attended about logistic readiness focused on EAD assets, Divisional assets are always forgotten. As we deployed for OIF 1 we were fed TCAM as we went out the door and never got the chance to properly train with it or get our SIGOS on line with our communication requirements.
188	Establishing connectivity through firewalls and between different computer systems (TAMMIS, TCAM, DMLSS)

Question 71	
"Please type in any additional comments you have on medical logistics training issues…"	
Record #	**Response**
12	Unit never has money to send soldiers to school other then the mandated by the military. Unable to go to Medical logistics professional programs, conferences or seminars. We need to be able to continual to get updated with the changes in the field
40	We must adapt our training tasks (strategy) to the missions that logistics units are asked to perform, e.g., Bosnia, Kosovo, Iraq, and Afghanistan. Are we familiar with USAMMCE and the systems they use…? Commo, Commo, Commo!!!
41	Section 5 training would be more beneficial to younger 70K's. I have learned more about medlog operations through exercises and experience than I did in the 70K course. In Section 5, I marked "Unsure" because I'm not sure this is something more to learn that I haven't learned through experience. Granted, I don't know everything yet but need training on specific issues not general overview of topics.
42	1. Every 70K ought to be programmed for CLK3 as their OAC. 2. Go back to the basics of Logistics, more emphasis on Army Logistics
44	Most Kilos coming to the field are well trained on TDA facility logistics of Class VIII. They are not prepared to be S-4s and cover the full focus of logistics support that they must support/coordinate for their units. Spend a lot of time starting over teaching the basics, while fighting to keep the young officers out of trouble with their Commanders, whom expect them to know these areas.
47	There is no formal performance based LOG training program after the 70K course. After that point, everything is experience-based, or Professional Short Course (training value debatable) based. There are no guidelines as to the training regimen that 70Ks should take – even if as a self-help program. There are no qualifying events or milestones to certify logistics competencies at points along a career. There is no standard skill set translatable to rank or years in service. There is no "How-to" manual, --a "MEDLOG for Dummies" -- to document core competencies and assist our officers. We need a reference guide to assist our officers – they need to be experts in MEDLOG, but also have a workable knowledge of the other classes of supply. There is no incentive for LOG officers to associate with civilian professional logistics organizations or the medical logistics organizations of the other services. Formal Systems-related training programs are seriously lacking. Systems officers receive their training primarily through OJT – there are no qualification metrics. Many of the true experts are contractor or civilian – and therefore not readily accessible in real time to a deployed force. There is no formal sustainment-training program for systems at the unit level – be that MTOE or TDA. This survey mentions TAMMIS and TCAM – yet the business area is moving towards a more joint systems orientation. There is no mention of DMLSS in the systems questions and that brings into play the entire joint and DoD/DLA arenas – and yet that is an additional environment in which our systems officers must work and be successful
50	Demand from healthcare professionals for non-standard, non-stocked items and customized support is a serious problem in the deployed environment. This is especially true in the Reserve components where providers bring a multitude of different expectations, standards, and procedures from a wide range of civilian healthcare environments. Either the expectations of leaders and healthcare professionals must change, or the med log system must become more robust to support their demands.
57	We need more Active Duty 70ks and MEDLOG BNs-The reserves cannot handle it and meeting TDA/TOE deployment requirements for OPTEMPO is currently impossible. Reflag the 147th. Specialize MEDLOG Officers for TOE and TDA assignments like we do for 70K9Is. Well rounded is a good methodology but we spend to little time in assignments to get proficient
58	The level of expertise obtained by most logisticians (also 91Js) have direct correlation to their assignment, operational optempo, availability/affordability of training opportunities, command climate, and direct mentoring experience
59	Future medical and non-medical logistics initiatives. ERP, GCSS-A. LTHET Opportunities

60	Current training methods fail to teach medical logisticians how to - first and foremost - "identify a problem", and subsequently fail to stimulate creative thinking to resolve ambiguous and often complex logistical issues. Current training fails to encourage the challenge of solving problems, and fails to instill upon the student the need to learn from their mistakes. Current training fails to emphasize that change and diversity is good, as we as medical logisticians should continually strive to find new and better ways of doing business! Current training fails to instill upon the student the value he or she brings to a medical organization, thus medical logisticians have failed to make commanders understand their importance. Current medical logistics training has ultimately failed to teach logisticians how to be effective "managers" of resources, i.e. people, money, equipment and supplies. Current training and doctrine fail to adequately emphasize new technologies, and fail to teach new business practices and methods embraced by our civilian counterparts. Current training fails to incorporate contract management principles. Basic med logistics training "must" include COR (Contracting Officer Representative) training! Current training fails to emphasize the importance of Information Management. Basic logistics training should include certifications like A+ , Microsoft Certified Professional, etc. Medical Logisticians must be allowed to train with our Quarter Master counter-parts, as well as, our own clinical staff. As medical logisticians must be effective in both the TOE and TDA - not one or the other, but both! Medical Logisticians must be trained to provide logistical support for small units – special warfare operations- as well as regular army, large unit, operations. Medical Logisticians must be trained to support homeland defense and disaster relief efforts. Medical logistics training must incorporate opportunities to train with logistical elements of the U.S. Airforce, Navy, Marine Corps, Cost Guard, Merchant Marines, and local civilian EMS /Fire Departments and Hospitals. (i.e. internships, residency). Current medical logistics training has failed to teach logisticians how to "THINK"!, and has only succeeded in creating mindless, micro-managers; thus the reason for the countless medical supply problems documented during OEF and OIF. Failure to change how we train junior medical logisticians to support the U.S. Army of the future will ultimately lead to the Army's decision to "Out-Source" medical logistic operations - or worse - allow it to be consumed by the Quarter Master Branch. Once, as a new medical logistics officer, I presented a complex problem to my supervisor with intent to resolve the issue. This senior medical logistician exclaimed, "This problem is of no concern to me, as I am a soldier and not a businessman!.. ". "If we as medical logisticians don't become better businessmen, we will not have the opportunity to continue to be soldiers." As Medical Logisticians, we are slowly putting ourselves out of business…., and it is all based on how we are trained, or not trained to think!
62	Let me caveat my entire statement by stating that despite the numerous medlog problems in OIF, my experience there as an S4 of a CSH proved to me that it was the only class of supply in which line-item requisitioning worked (I & Water, III and V worked well on a bulk push basis, but II, IV, VII and IX were completely non-functional in every way). Medlog has a long way to go, but Class VIII was head and shoulders above all other classes in OIF. None of my statements below are not earth-shattering revelations—the Ursones, Baxters, Kissanes, Fryes, Buchwalds, Signiagos, Daleys, Ryans, Roans, etc. of the world have been trying to fix them for years. Often they have had success; often, however, the inertia has overpowered them. What follows is my two cents' worth and nothing more. Medlog mgt in garrison is completely different from that in the field (DMLSS vs TAMMIS/CASS-M) [in fact, I found that the entire CS and CSS world operates differently in garrison than in a deployed environment]. TAMMIS was an ingenious system in that it was comprehensive and was the same in garrison and the field. I'm a MAJ now, and I've heard about the coming of DMLSS since I was a 2LT—we should have either fully transformed (i.e. field and garrison) to it or abandoned it in both TOE and TDA. In my semi-informed opinion, dropping DMLSS entirely would be no tragic loss for two reasons: 1.) TAMMIS was proven in TOE and TDA and; 2.) The Army serves as the SIMLM in almost all operational locations. I applaud the efforts to move to a tri-service system from TAMMIS, but it's been nearly 10 years (half a medlog officer's career) and we seem no closer to a working TOE application. The Air Force and Navy use significantly less Class VIII in deployments than the Army. Since the Army is essentially **THE** SIMLM for the DOD during deployments **AND** the Air Force and Navy successfully use TCAM/UCAM in Europe **AND** since it's taken so long and so many millions of dollars to unsuccessfully develop **AND** there is no real need for the services to use the same CL VIII mgt system in TDAs, I believe the Army should drop DMLSS entirely and go back to TAMMIS. Secondly, there are other systems problems. There is confusion in the field about the use of DMLSS-AMSA vs MEDASM…no one knows which to use (or how for that matter). CASS-M was a "drive-by" fielding. CASS-M system components came trickling in unannounced in Aug 02 and weren't complete till around Christmas. A quick day or two of training (primarily hardware-related) came in Jan 03 about a month before we loaded our equipment onto the ship for deployment. This was way too close to the deployment and we couldn't dedicate appropriate attention to learning this new system due to the sheer magnitude of other logistics-related deployment tasks. Lastly, there are very few solid medlog training opportunities for Kilos. S4 jobs (non-deployed) are great for learning about maintenance and all the other classes of supply, but where do Kilos learn

	about the unique challenges of managing CL VIII? The number of DMSO positions isn't increasing, and more and more officer and NCO positions in TDA Log Divisions are being civilianized every day. As I mentioned before, I am a field grade officer, and the vast majority of my assignments have been logistics related, but before my deployment to OIF, I only knew about three screens in TAMMIS. In fact, I still only know 3 screens in TAMMIS because the OPTEMPO was so hectic and chaotic in OIF, I entrusted the details of TCAM/TAMMIS to my NCOs while I was busy trying to obtain overcome the fact that our CSH was initially 50 to 300 miles north of the nearest functioning medlog detachment. In addition, I was coordinating all the generic S4 stuff (transportation support, coordinating with engineers to build things, maintenance, all other classes of supply, etc.). [Note: I believe 91J NCOs share the same training problems as the officers]. I've never been a DMSO, but I have been a PLT LDR and Co CDR in a Medlog Bn, yet I feel rather "technically incompetent" in class VIII mgt. I know of at least one other former Medlog Co CDR who feels the same way. The best training ground I ever saw (granted I've never been to the 16TH MEDLOG in Korea or USAMMA) was the USAMMCE/226TH MEDLOG Bn relationship prior to 1997. With the exception of blood mgt, USAMMCE performed the exact same functions as a MEDLOG Bn, and on a scale comparable to a deployed, fully engaged Medlog Bn. Allowing officers, NCOs and soldiers to rotate jobs between each of these organizations bordered on being the perfect training ground. After the "split" between the 226TH and USAMMCE, the 226TH became like any other medical TOE unit in the army—distracted by non-mission-related taskers and generally incapable of performing its mission without a huge training curve because there is really no way to simulate medical logistics demand in training. Splitting up USAMMCE and the 226TH was the worst thing we could have done. After the breakup, my Bn CDR (who's now retired) was senior rated on the "common denominators" of all the other units in the Corps (weapons qual, maintenance, PT, etc.). Therefore, he allowed very little training in medlog-specific areas. In fact, when I told him once that I wanted my soldiers to focus on MOS-specific training he said, "the soldiers will just have to learn their MOS when they deploy". My overly simplistic solution: move all medlog bns/companies away from CONUS (where they support no "daily demand" customers) and position them with USAMMCE in Germany and the 16TH MEDLOG in Korea. I could go on, but these are what I see as the three major problems where we can get the most bang for our buck.
63	The MEDLOG course was excellent compared to OBC. The automated systems is where I would have liked more training. (ie TAMMIS exercises in management level functions, TCAM, DMLSS and connectivity sources in a tactical environment). I felt well prepared to assume control my first warehouse and provide resupply to the Brigade in a field environment. JRTC rotations went well for my section. I always stayed at N. Fort to interface with BJACH. I wasn't able to truly practice full operations as my section was split between the "box" and "reality" at N. Fort. My connectivity problems were never tested under how we ran the scenarios.
64	Questions 22-24 and 27-30 unfortunately weren't performed or available to me in 1AD, but would have been embraced had they been. I don't mean to sound negative, but I recognize there is so much I was never trained on, especially in regards to deployment support and joint operations. I would highly recommend that items 44-69 are emphasized in basic and advanced courses, as well as the kilo course. I look forward to the opportunity to attend LDAC-FIT or the Baylor (log) course to get some more defined, constructive training. Please feel free to contact me with any questions. I personally don't feel I had very good preparation to be a kilo, but I'm still making my way up that steep learning curve.
65	I feel that as a logistician, I have been well trained and have received many resources to find solutions to problems. I have encountered issues with automation knowledge based on not having the opportunity to receive on hand experience. The last issue deals with senior leadership. I expect to get great guidance and professionalism from my leadership. As a Deputy Chief Of Log at Fort Hood (Jan-Sep 01), I experienced a very inept medical logistician who could not give technical or tactical advice on medical logistics operations and plans in a TDA environment. The officer offered no mentoring or guidance in any aspect. I feel a program should be established that would implement every field grade medical logistician to personally go through refresher training and to be responsible for personally mentoring at least 5 officer annually. Mentoring reports would have to be submitted to our senior leadership at MEDCOM and OTSG.
66	The larger issue is the breeding ground and jobs we have our Kilos in. Many are not serving in MSO positions and are doing general logistics functions solely or in addition to the medical duties
70	As systems change and are updated it's hard to find out the latest doctrine in medical logistics.
72	We do a poor job of teaching leaders and soldiers to a standard – we do a poor job of mentoring officers. Senior officers must be kept informed on current systems to provide mentorship to junior officers. How many of our 0-5 / 0-6s can use the Log Automated Systems (TCAM, CASS-M)? We as leaders are required to do more with less – we try to maintain our proficiency level but we have too many professional glass balls to juggle and oh by the way – we all have a personal life, family and other personal goals.
73	We must "train-as-we-fignt". To change operations or field new systems right before a war is a mistake. Soldiers and leaders must be able to work the systems and set them up with their eyes closed. The system must assist with this issue and be easy enough to operate and set-up. So it works both ways. Current TAMMIS / CASS-M is too hard to set-up, takes to long to power up, and getting connect it to difficult. THE SYSTEM WILL NOT WORK ON THE TYPICAL SEN VAN (MSE)

	SET-UP. There is not enough band width to accept all the systems. Please feel free to contact me if you need more info.
76	I attended the Med Log Crs many years ago 7 haven't had much opportunity since to train on the new TCAM, DMLSS systems; although we were able to issue new systems to our deploying units. I feel some intermediate level,short-term training opportunites for mid-career officers would be extremely beneficial. The 1 year I spent in Korea at the hospital opened my eyes to a whole other side of medical log & environmental care operations that I had never seen. Also, it's frustrating to see and read that we are still not successfully overcoming the challenges of preparing our NCOs & officers for the challenges they will face during deployments; nor are we successful in delivering the right supplies, at the right time to our customers. We definitely need to think joint and integrate with the force providers to have our transportation challenges acknowledged and worked!
80	School house procedures are too archaic and slow to effectively change to meet training requirements, particularly as it relates to systems.
85	We must get LOG units to CTC rotations and away from the garrison missions; specifically EAC units that are 'tied' to the garrison mission. Automation training is key and directly depends on other tactical support in field environments to train and evaluate CASSM and TCAM.
87	In a dangerous, rugged, and fluid battle situation, how does the Medical logistician effectively (quickly, efficiently) provide his forward operating customers with line item requisition service? The electronic piece is coming along nicely (TCAM down to the end user level allows customers to order line items electronically) when the customer has connectivity (which they often don't in fluid combat situations in remote and undeveloped areas). However, there remains a physical lag between the electrons flowing from TCAM and the actual supply chain delivery of the line item requisitions to the end user in remote and changing environments. There is no UPS, or FedEx in these rugged battle field locations and so the handoff between the 70K's and their customers in many cases is very time consuming and challenging. How can we cut down the customer wait time on the modern battle field? Push Paks are part of the solution but customers always use more of some item than another and it's nearly always hard to forcast which item they'll use lots of tomorrow. So, the FST team (or other forward customer) ends up with way more of some items than they can store or carry and completely out of other items. What they really need is a good line item requisition system that allows them to get rapid resupply on specific items. How can we train and develop to meet these needs?
88	What helped me the most in learning logistics was the trial and error phase of OJT. Mentors allowing me to make the mistakes, while also assisting me in making solutions. I started at the platoon level and was able to build. Now I can visualize the battlefield when planning logistics from a strategic level. I wished I had been able to benefit from going to the USAMMA Course after Baylor rather than the Alpha track. That was not an option for the class that attended Baylor from 1996-1998. Taking a four-year break from logistics is not good. There is so much that I missed. And because there is so much to learn, it is good that you are looking at future training. Logistician training must be mapped out. Also what would be nice is a recommended reading list for medical logisticians. Perhaps even a web site to encourage additional individual training.
90	To be honest, it doesn't take a genius to do this work. In fact, it's probably the easiest thing in the world to do without any training. As long as you have any logic, the job is too easy. The 2-week K course only taught manual general supply procedures. I have been successful at various levels by just looking at the situation and using general tactical decisions. The best training for this job was the time spent as a Med Platoon Leader in an Infantry Battalion. There it was sink or swim. That taught me all the logistics I have since utilized. I have yet to see any benefit of any of the K training that I received in helping me with this job. If I was running a warehouse, maybe. But as the Task Force S4 for Afghanistan and Uzbekistan, anyone (not just medical K) can do this job. It's regular supply work. My civilian job as the Lab Supervisor in a molecular research lab prepared me for supply work better than my Army courses. This is not just a cut on the K course, but I have found that all the courses I have taken in the military have been a waste of time. More was learned on the ground than was ever taught in a class. When it was taught in the class, it was after I had already experienced it first hand. I am currently enrolled in CGSC and have found Phase I totally useless. The military history was learned in ROTC and the rest I have experienced already.
92	AMEDD C&S should actively pursue graduate level accreditation for the Medical Logistics Management Course. The Captains Career Course (formerly called Combined Logistics Officer Advance Course (CLOAC)) at Fort Lee, VA is worth 6 graduate management credits through Florida Institute of Technology. The coursework is somewhat similar.
93	Due to cost issues and time constraints, commanders seldom exercise medical logistics outside of a MASCAL exercise. Having worked with many SIMEX conditions, I have never seen a computer simulation use as a benefit or detriment medical information rendering the medical units as useless or beneath a battlefield commander's notice. This has bred unreasonable expectations on a number of occasions.
94	TAMMIS / TCAM connectivity and training needs much more emphasis. Students are coming out of schools (AID/70K Course) unable to process basic requests. One way to capture this audience is to break the 70K course/AIT into two tracks -- TDA and TOE. For example, if a person's next assignment is TOE, then they will attend TOE track only. Prior to

	assignment to TDA, a person should go TDY to the TDA track. Our 70K/91J should have GTN, SMS, UMO, HAZMAT 112 certifications before they leave AIT and 70K course -- if they're going TOE. These systems/certifications are absolutely essential to survival in the Global War on Terrorism.
98	Need the senior and junior and NCO leaders of OIF 1 to pass on lessons learned to we who did not deploy. Need a distillation of these comments into what this means to us in terms of DOTLMS. What changes should we make in our organizations before MRI gets too far down the road in changing them. Did we get it right in our MRI organizational structures? If not, what should change?
99	There is a big need for acquisition training.
100	The CBT TAMMIS, and log disks were very helpful. 91Js need more training in AIT 92A are better up to senior SPC. 5 Weeks does not do it. My opinion is that 70K need to go to Click3 not the AMEDD ADV Course (having gone to AMEDD ADV). Training is hit or miss based on group and SGL.
101	We truly need to do it as we do in war with all of the confusion and such. Our command over peacetime logistics is unmatched and service unparallel. What we all do poorly and this is true for all medical professionals is wartime logistics and preplanning for the uncertain.
104	There is no mention of establishing and maintaining medical supply related systems and hardware. No mater how much "supply" you know if you can't assemble, maintain, and troubleshoot your systems they are of no use to you and degrades your ability to be of use to the command and the troops you are there to support.
105	Medical Logistic training is such a broad field that it is difficult for an institution to develop a program of instruction that would benefit all skill levels who are scheduled for training. It has been a challenge for schools for many years. Currently, as a deployed medical logistician, I have been forced to fall back on my many years of experience in order to perform my mission (16 years unit supply and 4 years as an officer and medical logistician). Much of the job involves tapping that experience
108	Need to open up USAMMA training to AGR officers. It would help if USAMMA could fund one or two a year. Would help in the One Army concept.
109	I spent much more time staying proficient in my MOS while on Active duty through attending the Logistics Conferences both army wide and ones supported OCONUS by the Silver Caduceus Society. Learned a lot from networking as well as participation in ACHE while on active duty.
110	I deeply regret that I have been Retired (MRD) for over a year, and that my Reserve assignments, since 1988, have been at the Wholesale Medical Supply and Distribution level (Defense Logistics Agency - DSCP). The “Fun” ended in 1982 when I left my Reserve Hospital unit to study for my Law Boards. I wish I could offer some really smashing suggestions, but I am out of my depth here. Based on my brief tours in Haiti and Bosnia, I would strongly recommend that our 70K Officers get very well versed in the numerous medical supply systems: for example, DLA has certain core systems such as FEDLOG, LINK, VLIPS; then there are ATAV, GTN, JTAV, JMAR, and the list goes on. When in the field, and supporting a Joint Operation, extremely useful to know that these systems exist, how they can help you, their limitations, and who to call when things go sour (there are experts at DLA and all DLA depots who really want to help - just be nice and not an a##). In the best of all worlds, our MS Officers would get a chance, early on, to work in a Joint assignment. The other services really do speak foreign languages!! I had the privilege of spending 14 days with a Marine Task Force at JiffyCom working on the “defense” and re-capture of a vital Canal. I was amazed at how little they knew about the capabilities of the Defense Logistics Agency and how much absolute faith they had that we could do anything, e.g. we need 50 18 wheelers tomorrow to haul supplies. Right. In Joint Operations, PLEASE have our Pharmacists involved in establishing the field Formulary!! In Haiti, our friends from the supporting countries robbed us blind - legally. I did the study for the UN U-4 Medical in 1995. Our “DMSO” issued tons of Zantac and multi-colored condoms. The food served by Brown and Root was superb, and we were not supposed to be consorting with the locals. I saw some Connexs being prepared for shipment back to the home countries - loaded with supplies procured from our Med Log Candy Store. Glad that I can’t remember which countries. I just shredded my hard copy report - I think. Retirement is really miserable at this point in time - Army spent 28 years training me and now I can’t do a blasted thing to help and that makes me somewhat more crazy than I was. My very best wishes to you. I am sorry that I could not be of any real assistance.
110	This is an individual responsibility. The institution can only train so much, and the individual must take the initiative to seek training/knowledge in this vocation. There are limited assets/time during the 70K course at the AMEDDC&S. I would recommend that 70K’s seek CME credits each year in several areas to include automation as part of their professional development.
112	The above questions were answered based on how I would benefit. As a very senior officer with virtually no chance of being in a tactical or operational environment, many of these training opportunities or categories have little relevance to the positions I would hold. If I answer from the perspective of how I believe more junior 70Ks and their units would benefit, I would place my marks under “Definitely benefit” for questions 64-67. I believe the school house does a pretty good job of providing initial training, but I believe logistics training in units is totally inadequate and the results experienced in log support in Iraq attest to that inadequacy.
115	Proactive medical analysis of areas of operation and medical planning for management of preventive medical casualty.

	Need PM representation for medical logistics training
116	The Medical Logistics Management Course, which produces "Baby Kilos", should focus more on the roles, responsibilities and functions (asw ell as TTP) of the Kilo assigned to a Corps echelon unit and below; particularly Division level. The course I attended in 1985 did not in any way truly prepare to execute my duties.
119	The course length when I was enrolled was too short. You cannot cram one years worth of curriculum into 13 weeks and expect someone to retain anything. All that occurs is studying to pass exams. Secondly, site visits should be a learning experience not a travel guide. Finally, the course environment should be separate from the military environment, i.e. take a lesson from the programs offered by the Center for Army Leadership, USAC&GS.
120	In order for medical logisticans to be competitive, they need to know the management of all other classes of supplies, and maintenance operations. Medical logisticans should be highly encouraged to obtain their 90A designator, therefore, the Multi-functional Logistics Course (90A) should be incorporated into the Medical Logistics training.
121	The three major problems I've seen are: 1. MTOE Soldiers don't get to use TAMMIS unless they go to war/deploy. (Solution: Train as you fight) 2. There is a training gap between user (91J) knowledge of systems applications and the administrator/operator (74B) knowledge of the hardware. The average 91J can't use a computer. (Solution: Raise GT score? Cross-train the MOS?) 3. Systems are created in a vacuum and don't communicate with the rest of the DoD or MTOE doesn't communicate with TDA. AMEDD created programs without input from Signal Corps, therefore, not enough band-with in communications platforms. Air Force produced DMMLS after Army "walked out," MTOE units requisition with TAMMIS/CASS-M, but garrison SSA uses DMLLS. (Solution: Joint development. Train as you fight)
123	LOOK INTO INSURING HTAT 70K CAN ATTEND THE RESIDENT 70 K COURSE AND NOT THE COORESPONDANCE COURSE. ASSIST IN ADDING NATIONAL GUARD POLICY AND ACTIONS TO TRAINING.
124	It's difficult to train low density MOS during peacetime, but commanders and other leaders must push for a rotation of some kind to the MEDCEN/MEDDAC for the 91J to constantly know and use TCAM. If not, an alternative would be to use TCAM at the unit level and send to IMSA or DMSO during peacetime. The more we integrate these systems and its use during peacetime would make it easier for the 91J to function independently in wartime situations.
125	The more Acquisition Training a Logistician receives the better Logistician he or she will be.
126	IN THE AGR PROGRAM, 70K PERSONNEL ARE NOT RESTRICTED TO 70K ASSIGNMENTS; THEREFORE, THERE IS LESS EXPERTISE IN THE 70K MFA.
127	Logistics coordination with Clinical managers is critical to the success of medical logistics within deploying units. Clinical requirements or issues should be addressed during basic and advanced logistics training courses.
128	An annual logistics conference should be required and funded for all 70K officer's in the reserves. As important, Commander's should be briefed about the role of the various logisticians in their units.
129	I think we have done a good job preparing medical logistics officers for tactical operations, but we need to add some focus for select personnel going to strategic-level assignments. Attending the Logistics Executive Development Course (LEDC) and resident CGSC provided great interactions with other logistics officers – interactions that paid dividends when I came across those same folks later in operational assignments. I can't emphasize enough the value of resident military courses. We also need to get more training on automated logistics systems, both medical and non-medical. In-transit visibility is the gold standard across logistics and the value of the Medical Logistics Management Center is priceless
130	-Updated TAMMIS and TCAM training almost non-existent or unable to attend due to funding issues or equipment availability. -Additional training needed on establishing various contracting tools such as BPA's and prime vendor
131	We must adapt our training tasks (strategy) to the missions that logistics units are asked to perform, e.g., Bosnia, Kosovo, Iraq, and Afghanistan. Are we familiar with USAMMCE and the systems they use…? Commo, Commo, Commo!!!
133	Training needs to be realistic, both in the classroom and during FTX,etc. Deploying overseas is quite different from CONUS and we don't prepare our loggies well before they go over; they need to be aware of the various problems with automation, storage, phyisicians wanting different items than what the loggies have access to, etc etc.
136	The course I took DID NOT teach me to be a med loggie in the field, especially when I was not in a MEDLOG Bn. It also wasted tons of time on manual inventory procedures when the automated systems do that. Better to spend the time teaching officers on how to better utilize the system and its management reports.
138	Your questions are wrong for a leader survey (especially for senior leaders). There is definite benefit to more hands-on training (and practical experience) that doesn't occur in the TOE units (or even most TDA units). Soldiers, NCOs, junior officers, and leaders (Logistics, Clinical, and Command) don't understand any of the processes … and if the Log BOS fails, all other BOSs will fail!
140	Unit funding insufficient for continuous education requirements/professional affiliation courses.
141	WOULD LIKE MORE TRAINING ON DMLSS 3.0 OR HIGHER FOR SUPERVISORY LEVEL

145	Exposure and doing shaped my experience more than doctrinal philosophy. I was fortunate in that I had jobs that required me to do medical logistics every day. That kind of 'on the job' training was more valuable than anything I could learn from a book or classroom. Mentorship is vital.
148	My observation is loggies lack training especially in the area covering transportation requirements and coordination (#47). Also, they need more training in the roles and responsibilities of the SIMLM
152	The most difficult issue is appropriately training the 70K course to take a logistician through the entire realm of TOE basic support to the USAMMA and DLA realm as welll as the entire TDA system from basic ward to USAMMA and PV. GMSO duties which are nearly identical to DMSO, were never discussed in any detail as none of my instructors had ever worked logistics in a Division or similar unit before. The entire TDA was a shock to me. Commanders lack support for additional training such as facility training when assigned as facility manager, TAMMIS for Materiel managers, and even conferences in general. It is difficult enough to do a job, yet alone to do it without training or being able to attend conferences to learn what else is out there and establish helpful POCs. More clearly establish logistic career path opportunities. I received a great education on career path opportunities from LTC Roan in OAC which would have been very useful years earlier.
155	I appreciate the questionnaire and fact that I am on a distribution list for email. I am currently assigned as the Health Services Material Officer for the 321st CA BDE at Fort Sam Houston. With Fort Sam Houston as my duty station, I feel that notification or awareness of refresher training would allow me to capitalize on staying current and aware of changes or alterations to any Medical Logistic Doctrine changes or automation upgrades that may occur. Training and familiarization are my main concern. Even if there were 1-2 day lectures by the staff at Fort Sam or anywhere else pertaining to various topics such as management of controlled substances, disposal requirements for expired meds, Automation upgrades and/or improvements, etc. that would greatly enhance the current proficiency of Medical Logisticians.
157	School house training is important but the most important part of training a logistician is hands on work (which doesn't really exist anymore) to sustain and re-enforce what they learn during their AIT and Log Courses. No one should expect a soldier who gets 1 to 2 ours of system's training – then goes to a unit and does everything EXCEPT work a STAMMIS – to be able to set up/understand a STAMMIS in a high intensity/high demand combat environment.
159	There should be a basic and advanced Med Log course. Just not enough time in the 10 week course to thoroughly cover all aspects. There is little to no focus on med log during OBC/OAC/CAS3. Need an applied and continuing education process so that skills do not deteriorate when you are doing non-70K jobs. As a 70K9I, I feel like a fish out of water when I have to go back to a pure 70K job after an extended period of time doing 9I related jobs.
162	The school does a great job of preparing you, the key to success in executing support of combat operations is to get the operational training through the CTC exercises as well as the support to division level exercises. This is where you find your weaknesses and then can do collective training to correct them.
166	Mentorship in the TOE world. Often the LT at the DMSO or the young CPT at the DMOC is the subject matter expert for the Division. It was hard to find a mentor who I could go to for questions and answers when I needed it.
168	Although, I would benefit from all of the above mentioned items, it comes mostly from the fact that my field is mainly in facility planning. As a facility planner, I am not in the position of the daily activities that groom medical logisticians in these activities.
169	Our business requires repetition whether working with automation, establishing warehouse, QC etc. CD-ROMs won't do it, neither will rotating thru IMSA, must give MRI Med Log Companies the mission to support customers and work daily with CASS-M/TAMMIS……
172	As long as the Training Centers only focus on pre-configured loads the problem of personnel not understanding the systems of medical logistics will still exist.
177	Deployed medical communications systems must be self-contained needing no outside assistance to function.
178	91W's at the unit level are not getting enough training on MEDLOG management at the unit level. 91W's need more training to understand how to run MED Supply at a company level in non-MEDLOG units
184	More access to on-line training material. The new communities page on AKO is a great start.
187	I had a membership with AHRMM, but I did not see the benefit. They focus totally on the TDA type environment and there is nothing on operational or tactical logistics which I deal with on a daily basis. I though it was a waste of money.
188	Medical logistics was rarely trained/played in the MTOE units I have served with